*The American Neptune*

# THE AMERICAN NEPTUNE

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# THE AMERICAN NEPTUNE

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SIX *years ago, when the first issue of this journal appeared, it was stated that sets of plans of the highest possible historical and technical accuracy, for the use of builders of ship models, would be frequently included. The production of such plans requires not only the most meticulous research among scattered sources, but long hours at the drawing board, and the number of men capable of contributing them has always been few. With the coming of the war, the services of these men were urgently required in shipyards, where long hours of exacting work upon the ships of the present and the future left no opportunity for historical study of the ships of the past. Under the circumstances prevailing, the submission of* any *plans for publication in* THE AMERICAN NEPTUNE *was a matter of satisfaction to the Editors, and they particularly appreciated the devotion which led Mr. Edward G. Brownlee to prepare drawings of the Hampton boat, Mr. Cedric Ridgely-Nevitt to contribute the plans of William H. Webb's steamship* George Law *and Henry Eckford's light-vessel of 1823, and Major (as he then was) Howard I. Chapelle to submit numerous plates of Chesapeake Bay skipjacks. It is hoped that, with the return to a more normal way of life, plans of vessels*

*may be published with greater frequency, and consequently it is appropriate that the first issue of this seventh volume should contain detailed drawings of a typical China trade ship of the eighteen forties—William H. Webb's* Cohota. *This vessel, although not the holder of any dramatic records, was a representative cargo carrier of her period and a good product of Webb's yard, and the authentic information available concerning her should commend her to model builders.*

*Mr. Michael Costagliola—a graduate of Webb Institute of Naval Architecture, now engaged in graduate work at the Massachusetts Institute of Technology—who has contributed the plans of* Cohota, *has shown himself an accomplished painter of ship portraits as well as a skilful draughtsman. Lacking a contemporary portrait of the ship, he has reconstructed one from the architectural data available. This watercolor, reproduced in collotype in Plate 1, has many of the qualities that characterized the paintings in which the late George C. Wales, with a meticulous eye for architectural detail and archaeological evidence, made American sailing vessels live again.*

# *The Canton Packet* Cohota

BY MICHAEL COSTAGLIOLA

IN the years between the War of 1812 and the Civil War, the trade between the United States and China gave rise to a class of vessels especially suited for this service. The route followed was one of the longest in any sailing ship trade, running from East Coast ports to ports in southern China via the Cape of Good Hope. The principal Chinese port for this trade was Canton, where many American firms had agents doing a flourishing business in the export of tea and other oriental products. The China trade was extremely lucrative, so big dividends were to be obtained by getting the most out of both ships and men. In contrast with the earlier British East Indiamen, which pursued their leisurely way around the Cape of Good Hope at an average speed of something like two knots, the China packets were driven to the utmost. Therefore the chief requirement for these vessels was speed, combined with large cargo capacity. Among the ships which took part in this trade are some of the finest specimens of the wooden sailing ship ever produced. Such vessels as *Helena, Sea Witch, Rainbow* and *Houqua* are justly famous, not only for their speed but also for their beauty of hull and rig. They belonged to an era when the ship-owner wanted the finest and fastest ship he could get.

The subject of this article is one of the lesser known Canton packets, inasmuch as she never made any outstanding passages nor did she become notorious as a 'hell ship.' However she was a fine example of her type and did excellent service in the China trade for a good many years. *Cohota* was originally built for N. L. and G. Griswold by William H. Webb[1] at New York City in 1843. She was a small ship by present standards, although about average for her type, measuring 145 feet in length, 32 feet 3 inches beam and 690 tons.

[1] Data in William H. Webb's manuscript Certificate Books (1840-1869) and Book of Offsets at Webb Institute of Naval Architecture.

A newspaper announcement of her launching in the *New York Herald Tribune* for 15 August 1843 describes her in the following words:

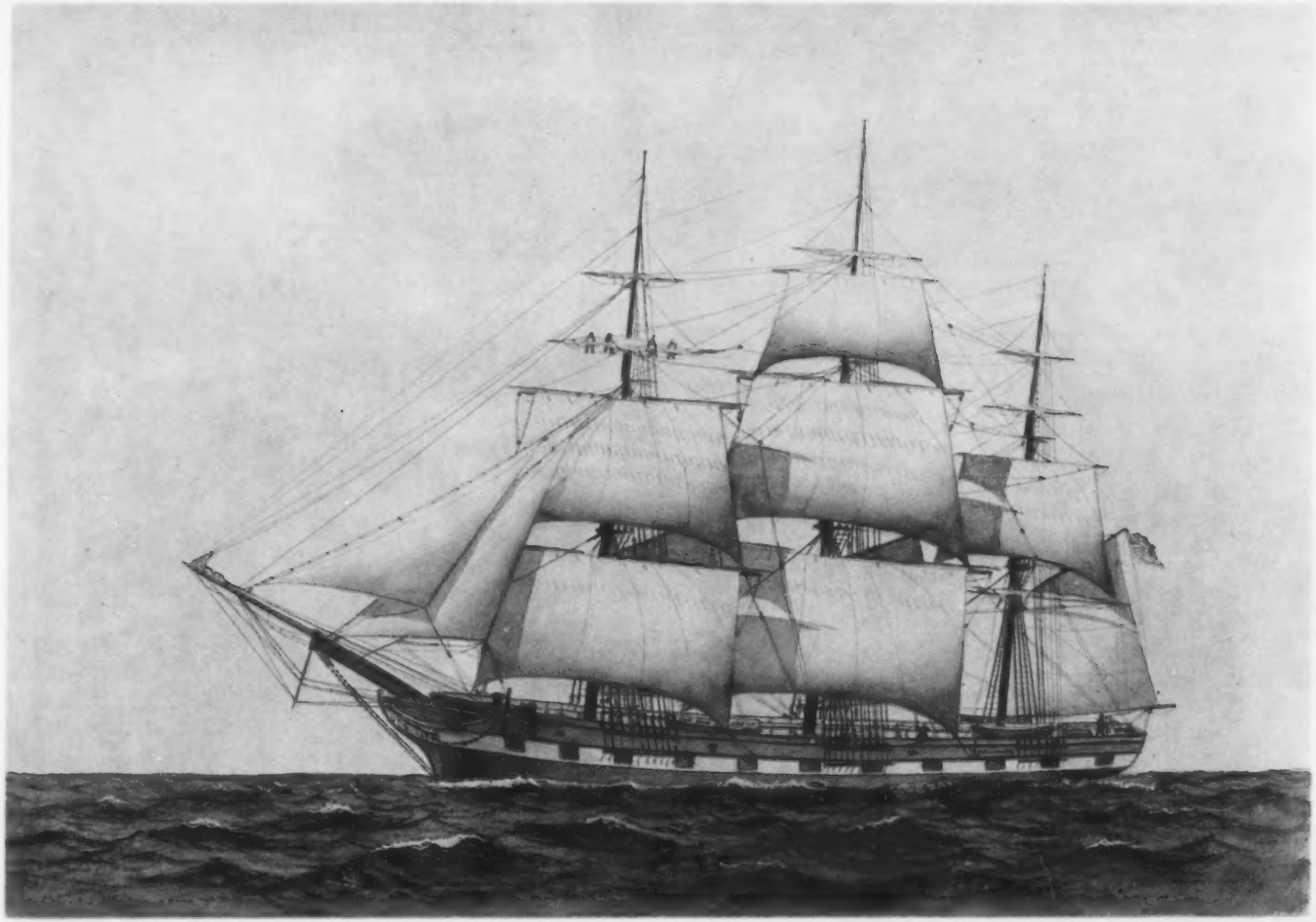
> This ship is expected to be a fast sailer, and for excellence of workmanship or symmetry of model, cannot be surpassed, and fully sustains the reputation this builder has already acquired.

Evidently the journalists of that day used superlatives rather indiscriminately. Nevertheless an inspection of her lines (see accompanying plates) shows an exceptionally well-formed hull. While retaining the essentials of the typical packet ship form of that day, the lines have been fined down considerably forward and aft. It will be noted that the bow is very bluff at the level of the rail. However it sharpens rapidly toward the waterline, and becomes somewhat hollow further down. The midship section is fairly full with about two feet dead rise. The resulting hull form is one that has large cargo capacity, yet it is capable of a fair turn of speed. The lines are generally similar to Webb's *Helena*, designed two years previously, which is claimed by some to have been the 'first' clipper ship.

Her builder's expectation of high speed was not realized, however, as none of her recorded passages could be considered as fast except for one of 100 days between Canton and New York. This is good speed for such a small vessel but is not within 25 days of the record set by the *Sea Witch*.

The plans which accompany this article have been reconstructed from such data as is now available on the vessel. The lines were drawn from the mold loft offsets (which are in the possession of the Webb Institute of Naval Architecture, New York City) and are believed to be correct for the ship as built since they agree closely with the ship's registered dimensions. Webb, as well as other shipbuilders of his day, often inserted extra frames amidships when the ship came to be built, thus producing a longer vessel than the offsets would indicate. The details of deck arrangement for vessels of this period are much more difficult to ascertain, however, as detailed plans were seldom, if ever, drawn at the time of construction. In the case of *Cohota* there is fortunately a contemporary built-up model (Plate 2) of Chinese origin in the Marine Museum of the Old State House, Boston, Massachusetts,[2] which I have been able to use as a

[2] This model, which is a very large and beautiful one in natural wood finish, was made in Canton about 1846 by a Chinese artisan, and was eventually brought to Boston. It was raffled off for $500 at a Sailors' Sung Harbor Fair held at the Boston Theatre about 1865, and was presented by the purchaser to the China Mutual Insurance Company, Boston. The late Dr. Charles Goddard Weld bought it from the Company, and subsequently gave it to the Marine Museum.

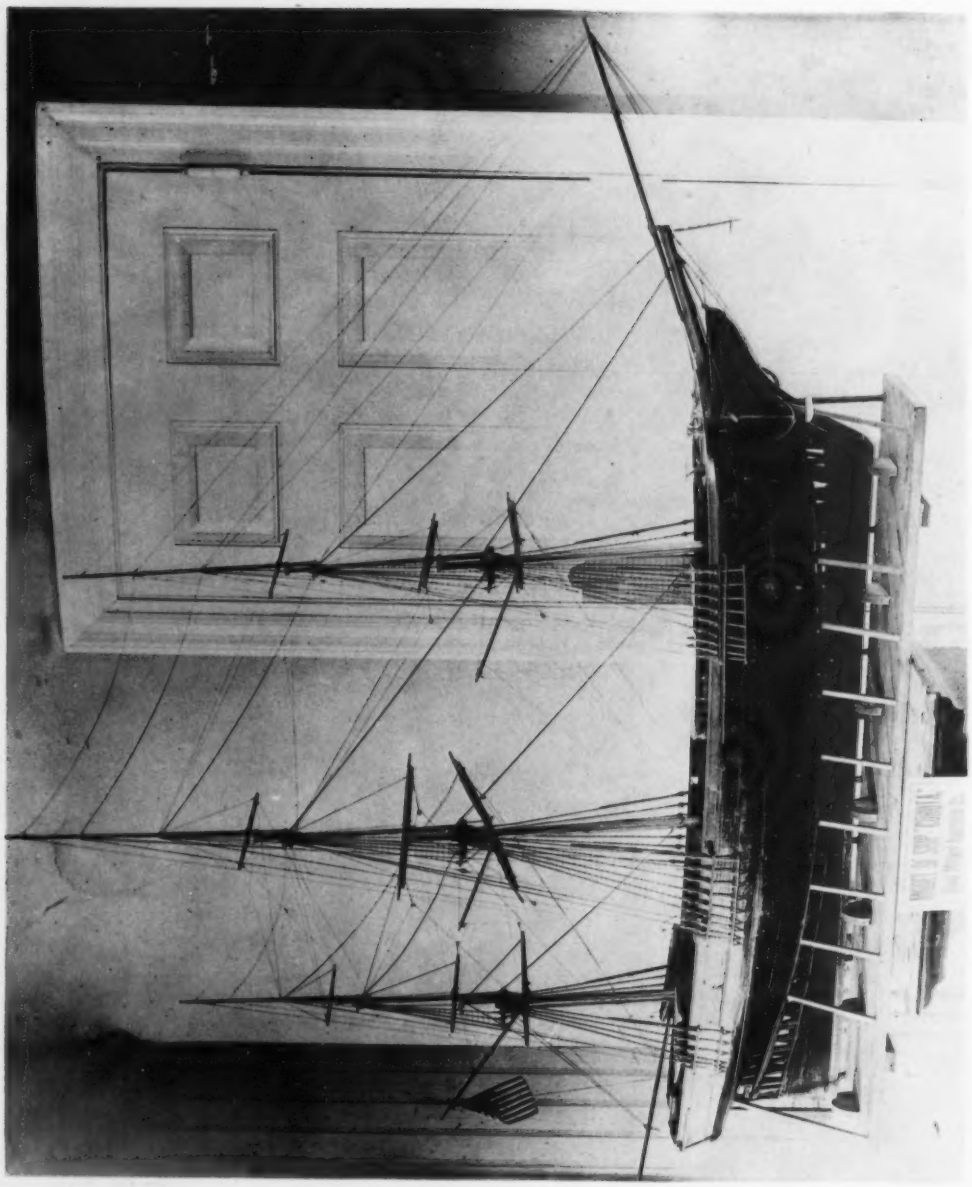


Ship *Cohota*, built at New York by William H. Webb in 1843

*Water color by Michael Costagliola, 1946*

PLATE 1

PLATE 2



Ship *Cohola*, built at New York by William H. Webb in 1843
*Model made by a Chinese artisan about 1846, now in Marine Museum, Old State House,*

guide in drawing the deck arrangements and sail plan. Although the hull form does not correspond exactly to the lines shown here (which is understandable when considering that the model was undoubtedly built without the assistance of the designer's plans), the details of deck arrangement and rig are in excellent proportion and show that the model builder must have been quite familiar with the vessel. As an indication of its accuracy, the spar lengths obtained from the model were compared with those of other Webb-designed packets of *Cohota's* size for which sail plans are available. There were very few dimensions which did not agree within a foot or two and the average deviation was only about six inches.

As the deck arrangement of *Cohota* is unorthodox in some respects, it might be in order to point out her peculiarities which may be difficult to interpret from the plans. Starting at the bow, it can be seen that the catheads project from the hull below the level of the foc's'le deck instead of lying on it. On the foc's'le deck is the usual capstan and at its after end is the familiar pump brake windlass. The chain pipes are further aft athwart the foremast. Abaft the windlass is a small companionway leading to the crew's foc's'le. Inside the bulwarks on either side are large wooden cleats or 'cavils.' Evidently these cavils, of which there are three pairs altogether, were used for mooring, as the mooring pipes ran right through them. There are no indications of any bitts on the model.

The small house abaft the foremast is apparently the galley. Further aft are the ship's long-boat and the main hatch. The long-boat shows the roof that was constructed over it to convert the boat into a chicken coop during the voyage, as was the usual practice on packet ships. This gave passengers and crew a little fresh poultry on the trip but hardly improved the seaworthiness of the long-boat. The pumps are on the fife-rail, just abaft the mainmast. Between the mainmast and the mizzen-mast there is a booby hatch leading below, and another capstan. The poop deck starts just aft of the mizzen-mast and is the height of the pin-rail. Access to the officers' quarters is had by the companionway on either side. On the poop deck we find the usual skylight and the ship's wheel. The after cabin is lighted by seven stern windows in the transom. The stern has an abundance of carved work including a spread eagle as well as the customary floral scroll.

There are two boats rigged outboard on the quarters abreast the mizzen rigging. Just forward of the mizzen rigging there is a long hinged port in the bulwark on either side—evidently freeing ports to rid the deck of water in heavy weather when the scuppers were inadequate. There is another pair of ports, square in shape, abreast the windlass, but their pur-

Ship *Cohota*, built at New York by William H. Webb in 1843
*Model made by a Chinese artisan about 1846, now in Marine Museum, Old State House,*

pose is obscure. It may be that guns were placed in these ports as a protection against pirates. The openings in the rail just forward of the main rigging are the gangways.

The sail plan shows a fairly tall rig with an ample spread of canvas. *Cohota's* main-yard was 69 feet long and her mainmast 137 feet from deck to truck. She carried both fore- and main-spencers. The model shows swinging lower stuns'l booms on the foremast, pivoted at the forward end of the fore channels. As was the custom in ships before the clipper period, where the foremast was stepped pretty far forward, the fore-stay comes down to the bowsprit instead of to the knight-heads. Her fore and main lower stays and fore-topmast stay are double.

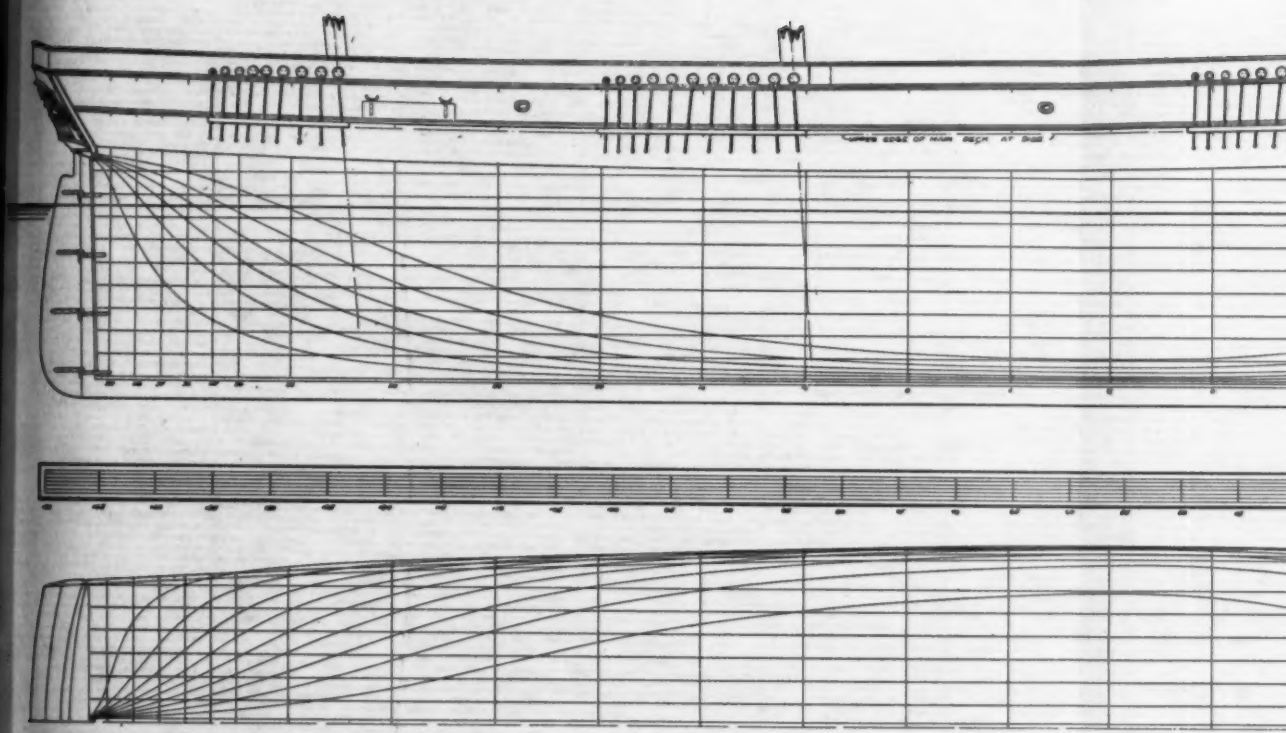
The figure-head on the model evidently represents an oriental of some sort dressed in flowing robes and a peculiarly shaped hat.

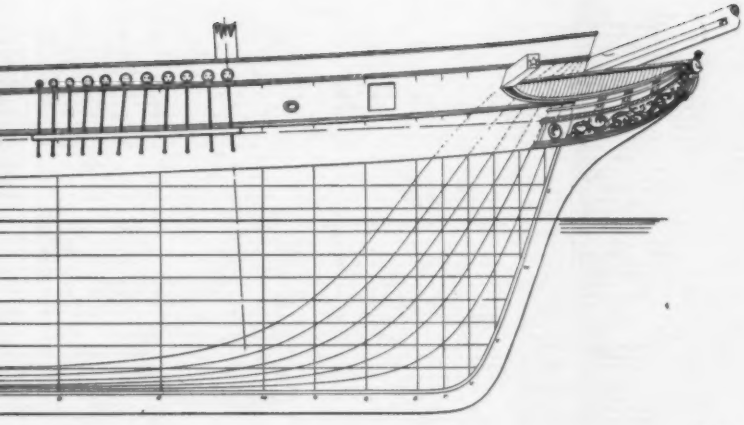
As no painting of *Cohota* is known to exist, I have made a water-color of her (Plate 1), based upon the architectural data used in drawing the accompanying plates of lines and plans, which will perhaps assist the reader in visualizing the appearance of the ship.

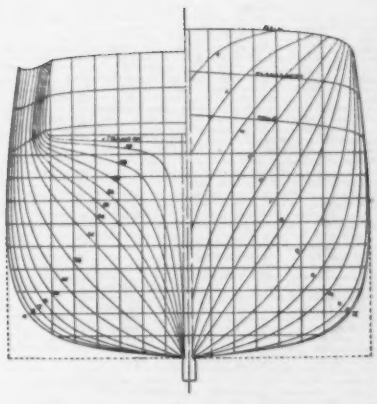
Data on the history of *Cohota* is very meager.[3] The Griswolds used her in their line of China packets until 1847 when she was bought by George H. and W. P. Lyman of Boston, who also used her in the Far Eastern run. In 1850 she made a passage of 100 days from Calcutta to Boston, which is not too bad. She was then apparently diverted to the California trade for a time during the Gold Rush, as there are two recorded passages which she made between Boston and San Francisco; one of 126 days, the other 138 days. None of these passages are particularly fast but neither are they slow. It would be unfair to judge her sailing ability on such meager evidence. It may be that the *Cohota* was not driven as hard as many other vessels of her time. The fact that she lasted in the China trade for nearly 20 years shows that she must have been treated with a certain amount of care.

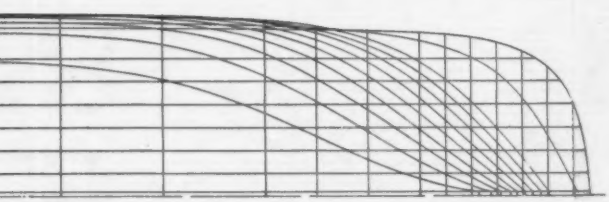
*Cohota* passed out of American hands in 1860, when she was sold to the British.

[3] Carl C. Cutler, *Greyhounds of the Sea* (New York, 1930), pp. 114, 151, 393, 478, 484.









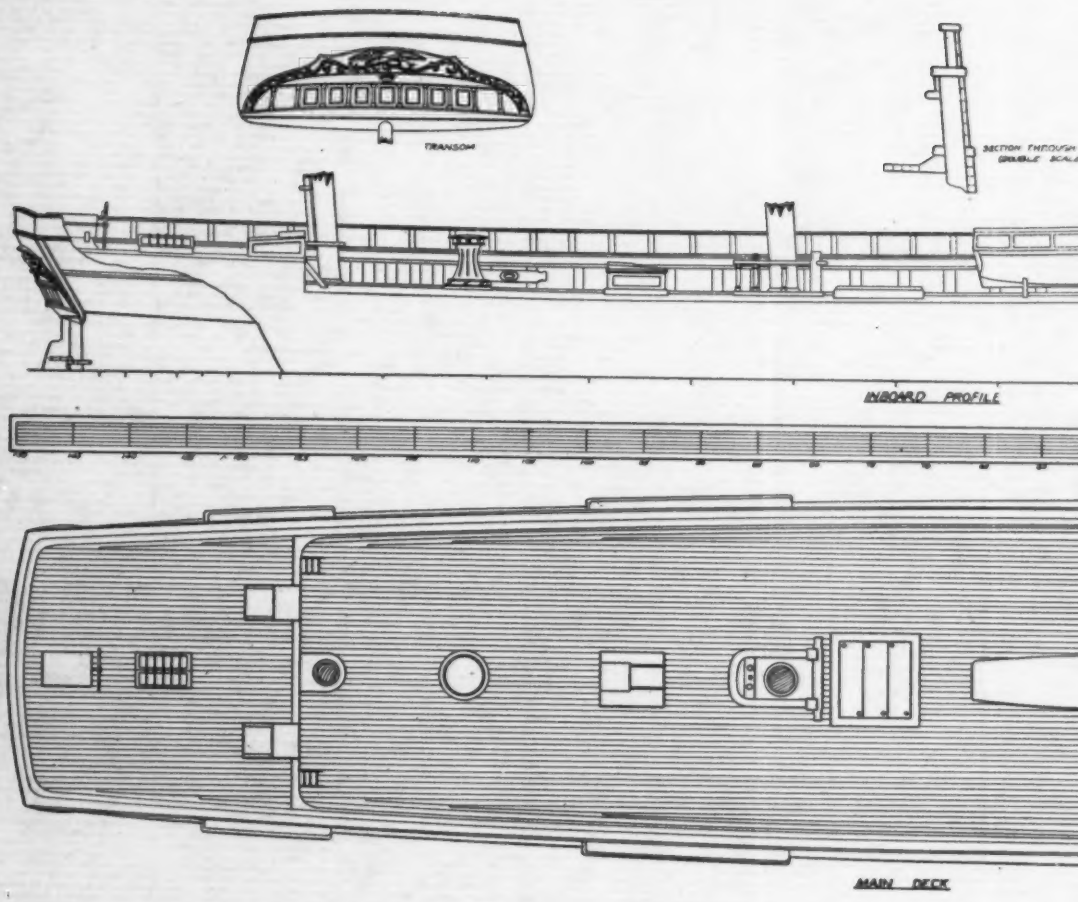
## SHIP "COHOTA"

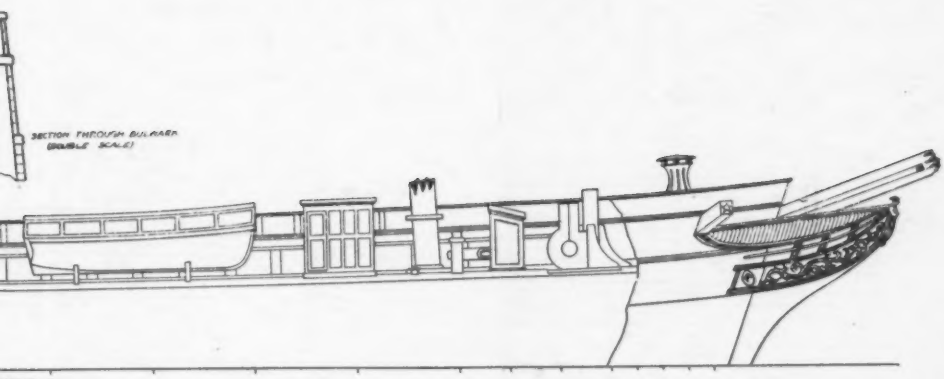
DESIGNED AND BUILT BY WILLIAM H WEBB
NEW YORK CITY - 1843

| | |
|---|---|
| TONNAGE | 690 ⅝ |
| LENGTH | 145'-0 |
| BREADTH | 32-3' |
| DEPTH | 20'-0" |

DRAWN BY M. COSTANZA 1913

UNIV. OF MICH.


TRANSOM
INBOARD PROFILE
MAIN DECK

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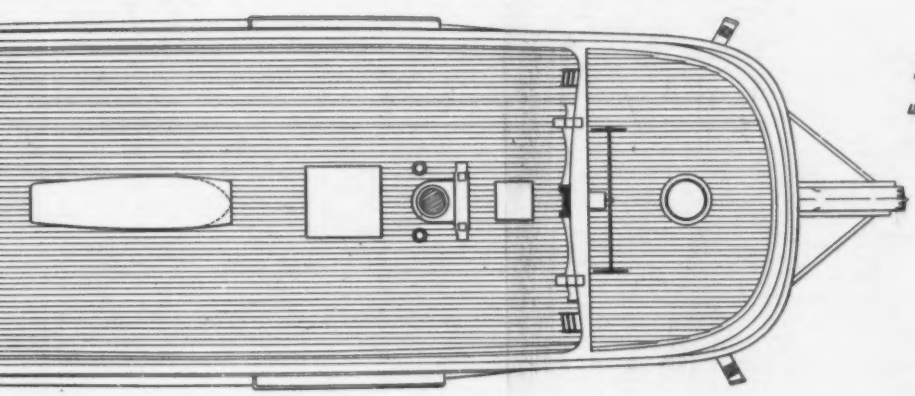
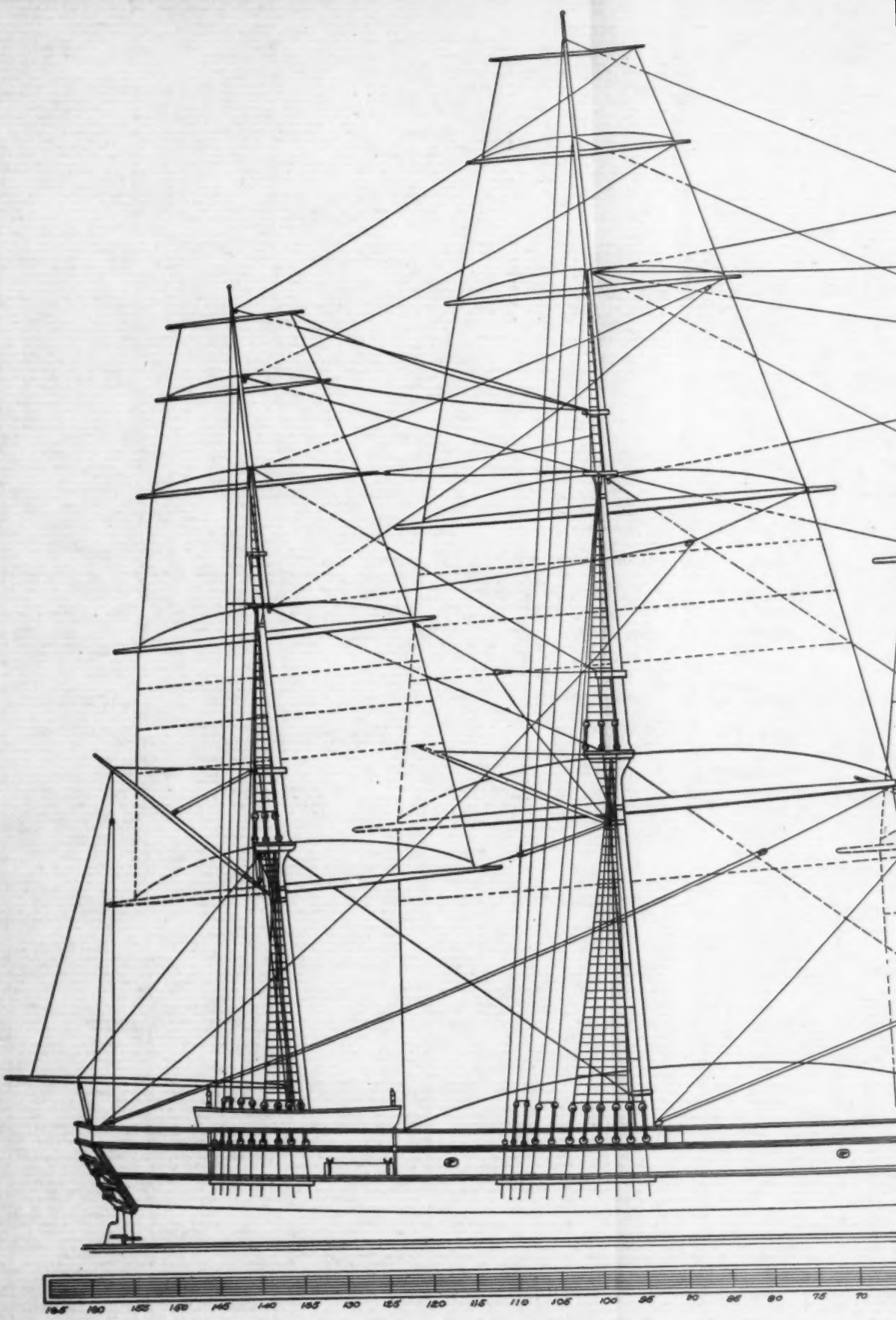


SHIP 'COHOTA'
DECK PLAN AND
INBOARD PROFILE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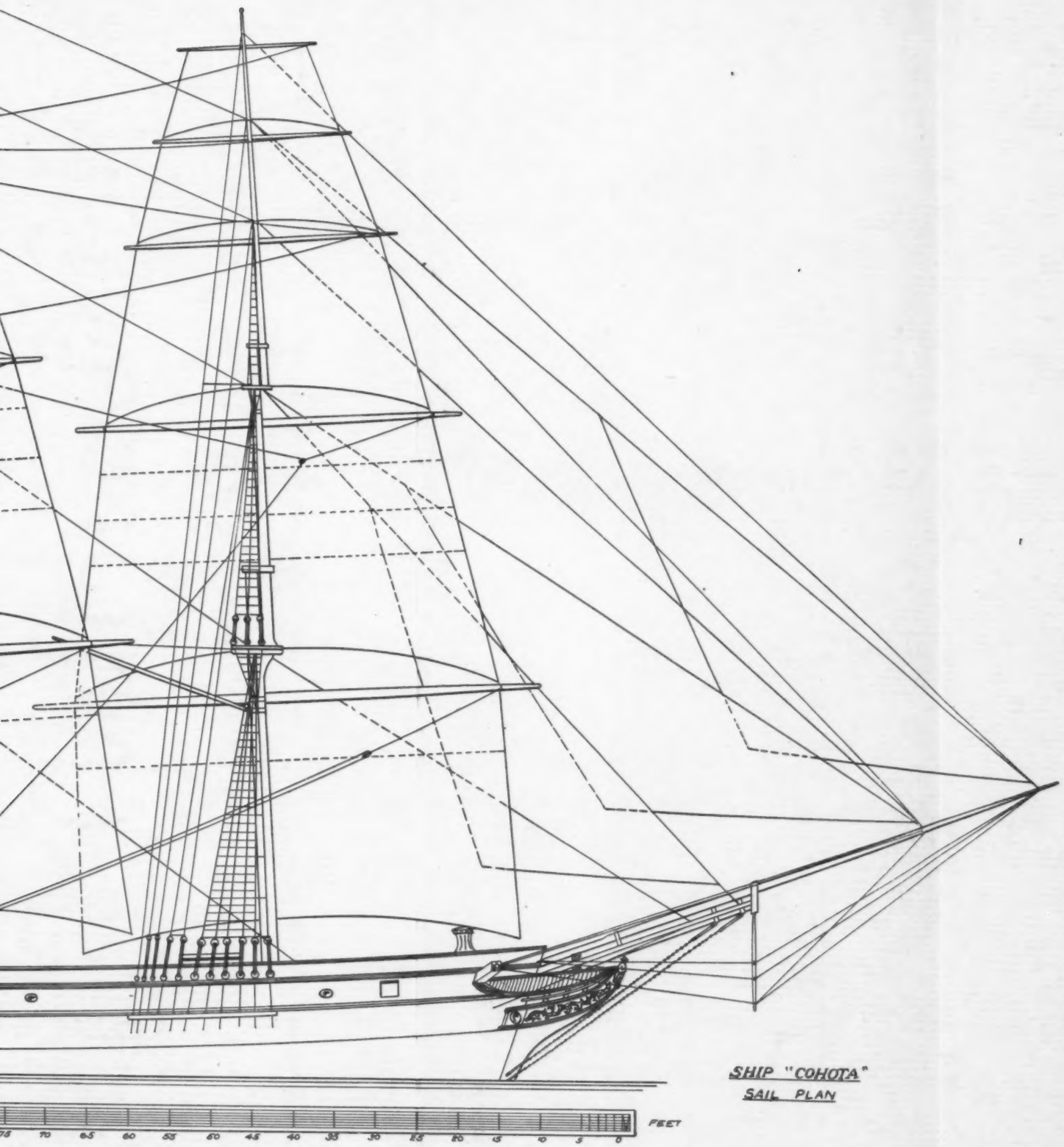



SHIP "COHOTA"
SAIL PLAN

# *Commodore Perry's Landing in Japan—1853*

From the Journal of
Commodore John Rodgers Goldsborough, U. S. N.

*CONTRIBUTED BY JOHN GOLDSBOROUGH*

U. S. Ship *Saratoga*, Yeddo Bay, Japan, July 17th, 1853

JULY 8th, 1853. At daylight this morning in company with the steamers *Susquehanna* and *Mississippi* and Sloop of War *Plymouth*, we made the island of Niphon, coast of Japan, on the port beam a few miles to the eastward of Cape Izou. At the same time discovered several large Japanese junks—also a great many smaller ones, besides several fishing boats, pull-away boats, and sail boats. At 6 A.M. made the remarkable high mountain of Fusee. At 8 A.M. passed Rock Island and stood to the Nd & Ed along the coast of Niphon for Yeddo Bay, the land high and rocky and without symptoms of cultivation. During the forenoon it was thick and hazy so that we were unable to see any very great distance, but towards mid-day the fog cleared away, which enabled us to obtain a meridian observation and ascertain our true position. At 1 P.M. passed Cape Sagami, and the whole Squadron stood for the anchorage in Yeddo Bay. At 3:30 P.M. anchored at Port Uraga on the west side of the Bay in 17 fathoms water—about one mile from, and immediately opposite to a six-gun battery erected on Fort Point. The *Susquehanna* anchored a cable and a half SW of the *Saratoga* and opposite another fort. The *Mississippi* a cable and a half SW of the *Susquehanna*, opposite a third, and the *Plymouth* a cable and a half SW of the *Mississippi* opposite a fourth: each ship being at about an equal distance from these respective batteries, and in such a position that, by having springs upon their cables, they could bring their broadsides at any time to bear upon them. All these forts with their dirt embrasures appeared to be newly erected except the one opposite the *Plymouth* which was apparently in an unfinished state, and I believe without guns. The only one that looked at all formidable was the one immediately opposite the *Saratoga*, which appeared as if it had been erected several years. From the ship we could see an innumerable multitude of soldiers, not only behind the embrasures, but with glazed hel-

mets and matchlocks marching from fort to fort, with grotesque flags and banners flying, bells and gongs ringing. These forts are located quite near the water upon the slope of the hill, and about one-half of a mile in a southerly direction from each other. We have our doubts about the size and number of guns in each fort. From my own observation I think they are few and small—and apparently useless so far as they can inflict any injury by penetrating our wooden bulwarks, or even reaching half way to the ship. There are two small villages on this side of the bay. The southern and largest one is said to contain about 5,000 inhabitants; its name is Ooragawa and it is, I believe, the port of entry for Yeddo. We can also see from the ship a village on the east side of the bay. The land around appears to be well wooded with pine, but we can see very little cultivation. The snow-capped mountain of Fusi, 14,000 feet high, is in sight, overtopping everything; it is by far the loftiest mountain in Japan, and is I believe always crowned with snow. The Bay is wide, deep and very much exposed at our present anchorage to all winds—especially from SW round south to SE. The currents are rapid and strong—about three miles per hour, and there appears to be a regular ebb and flood, two of each in twenty-four hours. The islands and rocks in the bay are surrounded by bold water—and the shore so far as we have examined is bold and free from reefs and sunken rocks.

Immediately upon the Squadron's anchoring a number of boats crowded with men—say from twenty to thirty in each—continued hovering around the ships. They were all fantastically decorated with flags and banners containing Japanese characters inscribed upon each of them. They were I believe in the employ of the government—and are known not only by the broad black horizontal cloth through the middle of the sail, but also by the sort of uniform worn by the oarsmen, which consists of a blue or brown jacket with white stripes on the sleeves, and the blue petticoat trousers. These boats are from thirty to forty feet long—built with a long sharp bow and the greatest breadth of beam about 11 ft. aft; they have an open stern, and across it a kind of fife-rail where they belay all their ropes and suspend all their banners. They are propelled by from ten to twenty oars each and generally two or three men at each oar; the oars are broad and oval upon the loom, but flat upon the blade—and like the Chinese oars are in two pieces, spliced in the center. They never pull but use the oar as in sculling—consequently the oar is never taken out of the water; yet their boats move through the water with uncommon speed. The seat of honor is in the forward part of the boat. None of the boats were permitted to come alongside of any ship in the Squadron—though

they all appeared quite anxious to go alongside the Flagship. Still none were permitted until fully convinced that a high officer was in one of the boats—when he alone, with an interpreter who spoke Dutch, was allowed to come over the *Susquehanna's* side. The Commodore, however, would not see him, but directed the Flag Lieutenant to learn the object which brought him on board. Lieutenant Contee received this two-sworded mandarin, whose title we afterwards ascertained to be 'the highest scholar that rides,' besides being the Governor of Ooragawa. He enquired the object of our visit, and was informed that we came on a peaceful and friendly mission, for the purpose of conveying a letter from the President of the United States to the Emperor of Japan, and that it could only be delivered to a high officer of state deputed by the Zegoon or Emperor to receive it. The 'Scholar' said we must go to Naugasaki to deliver it. This was positively and peremptorily refused. He was again informed that as our object was friendly we should not infringe upon any of the laws by landing; and we could not permit boats to be hovering around the ships watching our movements, and unless they were withdrawn in 15 minutes we should fire upon them. He said something about 'Japan fashion' but was told it was not American fashion. He however directed the boats to disperse, which they did and remained away permanently. He asked many questions about the contents of the letter, the number of ships in the Squadron, the number of men in each ship, etc., etc., which were promptly, adroitly, and diplomatically evaded. The following day 'the highest scholar that rides' again visited the *Susquehanna*. He came on board, he said, to renew the request that we would go to Naugasaki. It was as abruptly refused as at first, and the 'scholar' was informed he must have a high officer with full powers to receive the letter, or the Commodore would land with his force and carry it himself. He begged for time to communicate with Yeddo, and three days were given him to receive the letter, or we would take it ourselves. He kindly and politely proffered us wood, water and provisions, which were declined. The conversation was conducted through interpreters who spoke the Dutch language, and was fully and plainly understood on both sides. The Japanese, so far as we have seen them (the upper class, I mean) are well dressed, clean, and fine-looking men. This 'highest Scholar who rides,' or Governor of the village Ooragawa, as yet has been the only person permitted to visit the *Susquehanna*, and on each occasion he has evinced much curiosity, as for instance upon examining the large guns on her quarter deck, he asked with quite a knowing expression if they were Paixans guns.

The greatest number of junks are continually passing up and out of

the bay, most of which I presume are trading junks. They all appear to come in from the south, apparently loaded with rice. A few of them I think are fishing junks, by the seine which you can see hanging over the stern; but they all (both those bound up the bay to Yeddo and those for seaward) stop in at the village of Ooragawa. I therefore conclude Ooragawa is the port of entry for Yeddo, and all junks passing either way must be regularly registered at this port. These junks carry one large canvass sail, and are usually rigged with one long mademast stepped a little abaft the centre about 50 feet high and from 18 inches to 2 feet in diameter. In obedience to the laws of Japan, to prevent their going any great distance, they have an open stern and across it a kind of fife rail where they belay all their brails and ropes. They are generally from 30 to 50 tons burden.

The day after our arrival a boat from each ship proceeded a part of the way up the bay to sound, until recalled by a signal gun from the flagship.

Early on Monday morning, the 11th of July, a boat from each ship of the Squadron proceeded up the bay to prosecute the soundings of the day previous. The *Mississippi* weighed anchor and accompanied the boats, and the rest of the Squadron, as a precautionary measure, made every preparation to get underway in the event of an attack upon the boats. Today has been quite warm and clear and we have been enabled to see the opposite, or eastern, side of the Bay much more distinctly than at any time since our arrival. There appears to be a low, sandy point of land on the NE side of the Bay, and bearing from our present anchorage NNE, where are collected quite a number of armed boats and several large man-of-war junks. We can also, with the aid of our telescopes, see the beach lined with soldiers. The place is apparently fortified and has certainly the most military show of any place I have yet seen.

Today about 2 P.M. the Governor of the Village of Ooragawa, i.e., 'the highest scholar that rides,' again visited the *Susquehanna*. He came on board to say that on Thursday next a person duly authorized by the Emperor of Japan would be prepared to receive the Commodore with his credentials, and that they were then engaged in erecting a house for his reception. Whether they have been actuated by fear from the *Mississippi* and boats proceeding up the Bay, it is impossible to say, but it certainly has very much the appearance.

At 5 P.M. the *Mississippi*, with the boats in tow, returned to her former anchorage, having proceeded about 8 miles up the bay, making a reconnoisance and sounding over on the western and NW side of the Bay. They went within 12 or 15 miles of the city of Yeddo, but not quite near enough to distinguish any part of the city or its locality. They report, however,

very favorably of the Bay, not only as being quite deep but also free from reefs and sunken rocks.

Tuesday, July 12th. Two very long conferences have taken place today on board the *Susquehanna* between the Governor of the Village of Ooragawa, or 'the highest scholar who rides,' accompanied by mandarins and interpreters, on the part of the Japanese Government, and Captain Adams and Lieutenant Contee on the part of Commodore Perry. The first of these interviews came off early in the forenoon and lasted for several hours. They came on board, as they informed Captain Adams, to receive the letter for the Emperor of Japan, written by Commodore Perry, but it appeared upon investigations that they were not duly authorized or empowered to receive it, consequently we declined delivering it. However, a copy of the original letter from Commodore Perry was tendered, but they refused to receive this, as nothing had been previously said to them about a copy. After a long palaver which amounted to nothing but a repetition of the past and present conversations (Japanese diplomacy, I suppose) they asked for three hours to confer with some official on shore. It may be perhaps the Prince of Sagami (whose principality we are anchored opposite) that they wish to confer with, or it may be a person duly empowered by the Emperor who is on shore, and they are afraid to act without consulting him. At all events they left the *Susquehanna* about 1 P.M. for the shore, and returned to her again about 4 P.M. to say that a councillor of state with full powers from the Emperor would be prepared on shore to receive the Commodore on Thursday, the 14th, when and where an exchange of credentials would take place; and after being fully satisfied of the correctness of each other's powers, the original letter from the President of the United States to the Emperor of Japan would be received. He likewise exhibited a copy of the councillor's credentials with the imperial seals, which were examined and appeared to be perfectly correct. The conference was conducted in the Dutch language, the Japanese having an interpreter who spoke that language quite fluently. Have we not gained a point by being invited to land and having a councillor of state empowered by the Emperor to receive the Commodore! I think so. At the termination of the interview, 'the highest Scholar that rides,' with the mandarins who accompanied him, and the rest of his party, were invited to walk around and inspect the ship; they were shown through the engine room and different apartments without manifesting the slightest degree of curiosity. They drank some whiskey and appeared to relish this Yankee beverage with much satisfaction. Upon being shown some anthracite coal they remarked that Japan had an abundance of the

same kind. Thus far, everything looks favorable, but we must have patience and see the result.

Wednesday, 13th of July. Today has been quiet, but little has been done. Early in the morning a boat from each ship proceeded towards the entrance of the bay on the west side and about two miles below our present anchorage, to sound and examine for the purpose of enabling us to change the position of the ships to as near the place selected for the Commodore to land, as practicable.

The Japanese, upon learning the force to be landed from each ship tomorrow at the interview, have requested that it might be transferred to the ship, but we have insisted upon their remaining faithful to the original plan. They feel, I presume, some alarm at the number. We learn today that the Prince of Izou, being one of the councillors of state as well as a Prince of royal blood, has been appointed by the Emperor to receive the Commodore tomorrow.

July 14th. This is the day appointed for the exchange of credentials between Commodore Perry and the accredited ambassador from the Emperor of Japan. Early in the morning the *Susquehanna* and *Mississippi* changed their berth to a position immediately opposite the place selected for the landing of our party, the *Plymouth* and *Saratoga* retaining their former positions. At 10 A.M. fifty men from each ship, all the marines of the Squadron, and about thirty officers, total number about 300, all well armed and equipped with two bands of music, the Commodore's broad pendant and a dozen American flags, the music playing 'Yankee Doodle' and 'Hail Columbia,' landed on the shores of Japan. The Commodore was received by the Governor of Ooragawa, i.e., the 'highest scholar who rides,' one or two chief mandarins and some 6 or 8,000 Japanese, of whom at least 1,000 were half-armed troops drawn up in military array on the beach, besides about an equal number on each of our flanks to cut off our retreat in case of hostility. But regardless of all intrigue or deception on their part, our little band marched up gaily with the national airs playing and colors flying, to the hall of audience situated about one hundred yards from the landing and near which they had mats and red cloth for us to walk on. Two great councillors of state received the Com modore, and their position and rank in the empire must have been very high, if I judge by the great respect shown them by the mandarins, who spoke to them only on their knees. The councillors of state were seated in lacquer chairs. They rose and bowed when the Commodore entered and then resumed their seats. The exchange of credentials now took place without much ceremony, one of the councillors handing Commodore

Perry a receipt for his credentials. The letter of the President of the United States to the Emperor of Japan was now presented; it was enclosed in three beautiful gold-mounted rosewood boxes, and carried before the Commodore by two of the handsomest boys belonging to the *Susquehanna*, as pages. The boxes were opened and the letters displayed, with three seals of solid gold impressed with the arms of the United States and attached to the letters by gold and silk cords; the two seals cost $1,000 each. The letter presented, the embassadors were informed by Commodore Perry (through interpreters who spoke the Dutch language) that, as it would require time for consideration and reflection, he would expect an answer upon his return; that it was his intention to sail in three or four days for Lew Chew, China, and elsewhere; but that he would revisit Yeddo in April or May next, when he should expect the Emperor's reply to the President's letter. The interview then over, our little band marched down to the beach and reembarked for their respective ships. It was a great show, and a great day for America, for we are the first that have opened negotiations elsewhere than in Naugasaki, and the first to unfold our flag on these shores and lead an armed force.

Among the Japanese troops there appeared to be a corps of artillery with one or two very small field pieces, but most of them were infantry with matchlocks. They had some half a dozen horses of a tolerably respectable size.

The house where the audience took place was erected about 109 yards from the beach. It was about 100 feet long and about 40 feet wide, partitioned off by a magnificent blue and white velvet curtain. Seats were provided for the Commodore and a few of the officers.

Immediately upon the return of the boats the Squadron weighed anchor, and each ship running a line of soundings, they proceeded farther up the bay and anchored within 12 or 15 miles of the city of Yeddo, the capitol of this exclusive empire.

Friday, July 15th. We are at anchor on the west side of the bay and about one mile from the shore. Between the ships and the shore is a beautiful high island with a bold bluff point to the eastward, the southwestern side of which has quite a picturesque terrace sward. The island on this side is somewhat cultivated, but I could not perceive that it was inhabited. To the westward of this island there is quite an indentation in the land, which forms a beautiful little bay perfectly landlocked and sheltered from all winds and seas, and having several small villages on each side. The country appeared to be highly and beautifully cultivated.

I was employed this day, assisted by Lieutenants Clitz, Cooper and

Matthews, each of us in an armed boat, in sounding and making a reconnoisance of the harbors and inlets on the western side of the bay. While on this duty we pulled in and around this little bay. While doing so, the inhabitants of the different villages collected in great numbers upon the wharves and looked with astonishment at the 'red bristled barbarians' as we passed them. Among them were a number of Japanese women, easily distinguished from the men not only by the difference of dress, but also by their complexion, which was several shades lighter. Some of them were young and handsome; they were certainly much better looking than that class of women whom you meet among the Chinese. We did not land but made the circuit of this beautiful little bay, enjoying its fertile fields, its picturesque appearance, and the curiosity which we excited among the inhabitants as we pulled around. On our way out we stopped along side of a Japanese mandarin boat. The mandarin was kind and sociable, but seemed uneasy at our being there and quite anxious for us to leave. He gave us some half-ripe peaches and some delicious cool water. We all returned to our respective ships about 4 P.M., having been absent 9 hours, since 7 in the morning. During the afternoon the *Mississippi* hoisted the broad pendant and with Commodore Perry and suite, accompanied by a large number of officers from the other ships of the Squadron, proceeded up the bay within seven miles of Yeddo, without seeing it. The city of Yeddo, I learn, is built at the head of another small bay, or estuary, round which it extends in the shape of a crescent. The water as you approach the city becomes quite shoal, so as not to admit of any very great draught being carried within 3 to 5 miles of it. The high land around and the projecting points between, must, I presume, have prevented any one on board of the *Mississippi* from seeing the city; they have, however, the satisfaction of knowing that they have been much nearer the capitol of Japan than any vessel of any nation ever was before. At sundown the *Mississippi* returned to her former anchorage, to which we have given the name of 'American Anchorage.'

Today the Governor of Ooragawa, 'the highest scholar that rides,' visited the *Susquehanna* to entreat the Commodore not to go any higher up the bay.

Saturday, July 16th. At daylight this morning the *Susquehanna* and *Mississippi* changed their position and moved lower down the bay. We intend following them as soon as the wind and tide will admit. At midday, in company with the *Plymouth,* we weighed anchor, ran down, and anchored quite near to the steamers on the west side to the Nd. and around Ledge Point, the bight of which forms quite an extensive curve, making

a beautiful bay with plenty of water free from rocks or reefs and large enough to anchor a dozen or more sail of line-of-battle ships. We call it 'Susquehanna Bay.' A boat from each ship in the Squadron has been employed all day in sounding it out and making a chart of its harbor. The officers engaged in this duty report very favorably of this beautiful bay as a commodious and safe anchorage. Several villages are dotted along the shore, the hills have a picturesque appearance, and the country around is fertile and productive. In the afternoon the Governor of the village of Ooragawa visited the *Susquehanna*. He brought with him one or two boat loads of presents, such as chickens, eggs, fans and Japanese lacquered boxes, also lacquered cups and saucers. These presents were received and distributed around to the different ships, and a box, or a cup and saucer, or fan, to many of the officers. The rest were retained by the Commodore for distribution to the Government and to the different institutions in the United States which sent by the Commodore presents for the Japanese.

Does not this argue well? Does it not look as if success would attend our visit, and a favorable treaty be made if a little diplomatic tact be used? Everything certainly has a flattering appearance. We have been permitted to land with an armed force, banners flying and music playing; we have approached their capitol within 7 miles without opposition, and we have surveyed their harbors, bays and inlets without being molested. An ambassador has been appointed by the Emperor (a Prince of the blood) with full powers to confer and exchange credentials with our ambassador, Commodore Perry; presents have been received and accepted on both sides. We have not been annoyed (as all other foreign vessels that have anchored in any port of Japan) by having a multitude of armed boats round the ship both night and day, watching every movement and following every boat that may happen to leave the ship, but we have been left peaceably and quietly to ourselves. And in all our interviews, they have been marked for civility, politeness and decorum, and a proper appreciation for the delicate but important mission which brought us in their waters.

Sunday July 17th. Daylight broke upon us this morning with a heavy rain, the first that we have had since our arrival in Yeddo Bay, but towards sunrise it cleared away, and the beautiful green hills of Japan looked quite refreshing and surpassingly beautiful. At 7 A.M. the Squadron weighed anchor, the *Susquehanna* taking this ship in tow, and the *Mississippi*, the *Plymouth*, and all four stood out to sea in noble style and bid adieu for a few months to the Japanese.

## APPENDIX

### Summary of Service of
### Commodore John Rodgers Goldsborough, U. S. Navy

Prepared by Office of Naval Records and Library, Navy Department

John Rodgers Goldsborough was born in Washington, D. C., 2 July 1809; appointed from and citizen of the District of Columbia.

From 1 December 1823 to 15 August 1824 John R. Goldsborough served in the U.S.S. *John Adams* in the West Indies, having been appointed an Acting Midshipman by Commodore D. Porter commanding the expedition against pirates. 16 November 1824 he was appointed an Acting Midshipman by the Department and ordered to the U.S.S. *North Carolina,* Commodore John Rodgers' Flagship in the Mediterranean; 24 April 1827, transferred to the U.S.S. *Warren* at Port Mahon; detached 10 April 1829 and returned to the United States, arriving at Baltimore, Maryland, 7 June.

From July to October 1829 Midshipman Goldsborough was on duty at the New York Station; 23 October 1829, granted leave and 4 June 1830 granted six months' furlough. He received an appointment as Lieutenant in the Revenue Cutter Service and served in the Cutter *Ingram* and *Alabama* in the Gulf of Mexico until June 1831. 27 August 1831 he was ordered to report for duty at the Norfolk Navy Yard by 1 October, with permission to attend the Naval School when his services were not otherwise needed; detached from this duty in February 1832 and ordered to examination in Baltimore the third Monday in March; 1 June 1832, forwarded warrant as Passed Midshipman dated 28 April 1832.

Midshipman Goldsborough served at the New York Navy Yard from September 1832 to January 1833; granted leave until 7 August when ordered to the U.S. Sloop-of-War *Ontario.* This vessel sailed from Norfolk in November for the Brazil Station where Midshipman Goldsborough subsequently served in the U.S.S. *Boxer,* in the *Natchez* as Acting Master and in the *Erie* as Acting Master and Acting Lieutenant until August 1836. He was detached from the *Erie* on account of ill health by Commodore James Renshaw, commanding Brazil Station, and returned to the United States, reporting his arrival at New York on 3 November. From December 1836 until 1841 he was on leave and waiting orders.

7 October 1837 Midshipman Goldsborough was appointed a Lieutenant from 6 September 1837, commission dated 2 October 1837.

On 14 April 1841 Lieutenant Goldsborough was ordered to report to Commodore Downes at Boston for duty in the U. S. Receiving Ship *Columbus* where he served until 22 January 1842, when transferred to the U.S.S. *Columbia,* Home Squadron; 31 May, ordered to the Receiving Ship at Boston; 22 August, ordered to U.S.S. *Columbus,* Flagship of the Mediterranean Squadron until February 1843 when she sailed for the Brazil Squadron. In August 1843 Lieutenant Goldsborough was trans-

ferred to the *Columbia* on the Brazil Station, which vessel sailed from Rio de Janeiro in January 1844 for the Mediterranean where Lieutenant Goldsborough was detached 27 May and granted permission to return to the United States. He reported his arrival at New York on 17 July 1844.

From September 1844 to March 1850 Lieutenant Goldsborough was on Coast Survey duty, at various times commanding the *Vanderbilt*, *Wave* and *Nautilus*. 24 June 1850 he was ordered to the U. S. Sloop *Saratoga*, which vessel left Norfolk 15 September to join the squadron in the East Indies. After four years' service on this station he returned to the United States in the *Saratoga*, arriving at Boston 1 September 1854.

On 29 March 1855 Lieutenant Goldsborough was ordered to the command of the Naval Rendezvous at Philadelphia, Pennsylvania. He was promoted to Commander 14 September 1855. 4 May 1858, detached from the Naval Rendezvous and waiting orders until 29 April 1861 when ordered to command U. S. Steamer *Union*. This vessel was attached to the Atlantic Blockading Squadron until August, during which time she captured the ship *Amelia* off Charleston, South Carolina. In August she joined the Potomac Flotilla. Commander Goldsborough was detached from the *Union* 2 September 1861 and ordered to take command of the U. S. Steamer *Florida*. This vessel left New York 16 October to join the South Atlantic Blockading Squadron, performing blockade duty off Charleston and cruising along the coast of Florida.

Commander Goldsborough was promoted to Captain on the Active List 16 July 1862. He was detached from the Steamer *Florida* 23 August 1862 and on 25 September was ordered to Portsmouth, New Hampshire to assume command of U. S. Steam Frigate *Colorado*. This vessel left Portsmouth 8 December for Hampton Roads to join the North Atlantic Blockading Squadron, arriving there 14 December. However, due to a breakdown of machinery Captain Goldsborough was forced to proceed with the *Colorado* to New York for repairs, arriving there 16 January 1863. On 21 February 1863 the *Colorado* again put to sea, under orders to join the force under Admiral D. G. Farragut in the Gulf of Mexico, arriving off Mobile on 13 March. On 9 May this vessel was present at the capture of the Schooner *Sea Lion* off Mobile and on 17 May assisted in the capture of the Schooner *Hunter*. On 24 September Captain Goldsborough was relieved of command of the *Colorado* and returned north, reporting his arrival at Philadelphia 10 October 1863.

On 18 November 1863 Captain Goldsborough reported at the Navy Yard, Portsmouth, New Hampshire, for duty as Inspector in Charge of Ordnance; ordered detached from this duty 18 October 1865, upon reporting of his relief, and to assume command of the U.S.S. *Shenandoah* at Philadelphia preparing to sail for the East Indies. This vessel left Philadelphia in December and, after visiting many ports enroute to the Asiatic Station via the Cape of Good Hope, arrived at Singapore 31 December 1866. While on this station Captain Goldsborough made a cruise in the *Shenandoah* to Japan and Korea, during which he surveyed the Ping-Yang River in

the latter country. 23 April 1867 he was commissioned Commodore from 13 April 1867. In January 1868 Rear Admiral H. H. Bell, commanding the Asiatic Squadron, was drowned by the capsizing of a boat on the bar at Osaka, Japan, and Commodore Goldsborough, being the senior officer, became Commander-in-Chief of the squadron and raised his broad pennant on the U. S. Flagship *Hartford*. He was relieved of this command in April and returned to the United States in the *Hartford* via the Cape of Good Hope, arriving at New York 6 August 1868.

From September 1868 to December 1869 Commodore Goldsborough was on ordnance duty in the Navy Yard, Philadelphia, Pennsylvania; January 1870 to April 1871, Commandant of the Navy Yard, Mare Island, California; placed on the Retired List 2 July 1870; May 1871 to May 1872, commanding U. S. Naval Station, Mound City, Illinois. This last duty was Commodore Goldsborough's last active service. He died 22 June 1877 at Philadelphia, Pennsylvania.

# *The Insular Campaign of 1759: Guadeloupe*

*BY MARSHALL SMELSER*

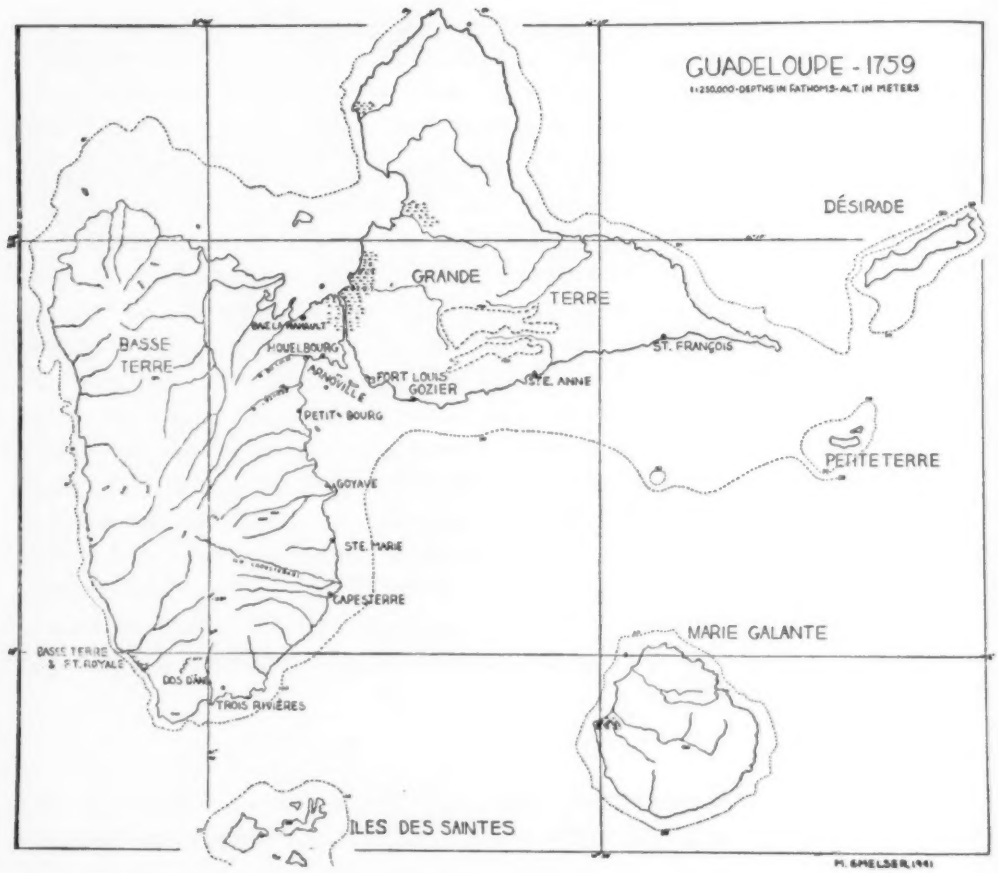
IN the latter part of 1758 the Pitt-Newcastle ministry, after learning of the occupation of Louisbourg, decided to send a combined expedition against the French West Indies under the joint command of Major General Peregrine Thomas Hopson and Commodore John Moore. Their force consisted of about 5,700 troops and 15 ships of the line (at one time or another) with 60 transports, and accompanying frigates, sloops, store-ships and bomb-ketches. Early in January they reached Fort Royale Bay, Martinique, where the troops were put ashore, meeting strong partisan resistance in broken country. Unaware of the defeatism prevalent among the rulers of the island and not wishing to risk the fleet in narrow waters and unfavorable winds in an assault on the citadel Moore could offer little help to the harassed troops and the land forces were evacuated after only one night on shore. The combined force then steered for St. Pierre where the co-commanders decided that an attack on that place could serve no real purpose and agreed to sail to Guadeloupe to try their fortune there.[1]

## I

In the eighteenth century Guadeloupe was a precious stone in the Bourbon crown, producing most of the French sugar supply and providing a race of swarthy privateersmen who were cordially disliked by the British merchant fleet. The island is really two irregular islands, one volcanic and one of limestone, which are surrounded by small satellite islands. The climate is enervating; malaria and dysentery are still dangerous. The volcanic island, Basse Terre, rises to 4,867 feet; the flat island, Grand Terre, reaches up to less than 400 feet. The eighteenth-century population is estimated at 2,000 Europeans and 30,000 negroes, chiefly on plantations and in small villages. The only town of importance

[1] For a narrative of the combined operations at Martinique, in some detail, see Marshall Smelser, 'The Insular Campaign of 1759: Martinique,' THE AMERICAN NEPTUNE, VI (1946), 290-300.

was Basse Terre, on the island of the same name, with a high citadel. Guadeloupe was well watered and had an all-weather harbor (the *Petit-cul-de-sac*). Its trade was more valuable than that of Canada but in 1759 was cramped because of the vigilance of the Royal Navy off the French coast.




Nevertheless, its capture would be a disaster to the French carrying trade, and to the French royal revenues.[2] Militarily the occupation of Guadeloup by a British force would have two positive advantages: it would clean

[2] After the British took the island, with some sugar works out of production and when trade was very slow, a one-per cent import-export tax and a capitation tax on slaves in six months produced a revenue of 307,284 *livres*. When the sugar manufacture was normal, it produced about 80,000 hogsheads yearly—more than all the British Leeward Islands (including Barbados). Crump to Pitt, 4 October 1759, Colonial Office 110/1 (Transcriptions in the Library of Congress).

out a nest of privateersmen and it would provide an additional harbor on which to base a naval force for the protection of British shipping.[3]

The task force which had assayed the strength of Martinique and had then decided to attack Guadeloupe took two days to sail from St. Pierre to a point five or six sea miles southwest of Guadeloupe. After joint army-navy reconnaissance, stations were assigned for a naval attack on the citadel at Basse Terre and on the batteries fronting the roadstead there, on the morning of 23 January. The defense consisted of five companies of low-grade French Marines, some militia companies and some slaves. The Commodore shifted his flag to General Hopson's frigate and two bomb-ketches were sent to annoy the defending entrenchers through the night. The three largest ships took on the citadel, and five others were assigned to the four known batteries. In eight hours of action, with only one ship seriously injured, the shore batteries, including the lofty 52-gun citadel, were silenced. The citadel might have held out indefinitely except that its drinking water cistern was fouled by a mortar shell and the militiamen of the garrison drank rum instead of water all that hot day until disciplinary inhibitions were relaxed and they all went home. During the night the town was set afire by carcasses from the bomb-ketches and three-quarters of it burned. The troops were set on shore early in the afternoon of 24 January, north of the smoldering town, and the citadel was occupied before dark—in time to forestall one of the rum-dumb garrison who was found staggering in the cellars with a lighted torch and a firm intention of touching off the magazine of three hundred barrels of powder. Within a week the town and its environs were secured and the only activity was an occasional outpost affair. Since the inhabitants had fortified the Dos d'Âne, the only pass which led from their fallen capital to the rest of the island, Hopson was faced with the problem of forcing or flanking it. While he deliberated, the army, secure where it was, relaxed. And the sick rate began to increase ominously.[4]

[3] Société d'éditions geographiques, maritimes, et coloniales, *Antilles françaises*, in G. Grandidier, directeur, *Atlas des colonies françaises* (Paris, 1934), pp. 2-4, hereafter cited as *Antilles françaises;* Platt, Wright, Weaver and Fairchild, *European possessions in the Caribbean area* (New York, 1941), pp. 58-64; John Entick, *General history of the late war*, 5 volumes (London, 1763), IV, 171-175, 171n.-175n.; Richard Pares, *War and trade in the West Indies, 1739-1763* (Oxford, 1936), p. 217; Richard Waddington, *La guerre de Sept ans*, 5 volumes (Paris, 1899-1914), III, 359.

Where there is no duplication, works once cited will thereafter be cited only by authors' surnames unless otherwise noted.

[4] William Pitt, *Correspondence of William Pitt, when Secretary of State*, Kimball ed. 2 volumes (New York, 1906), II, 23-24, 28-31, hereafter cited as Pitt, *Correspondence*; Richard Gardiner, *Account of the expedition to the West Indies against Martinico, with the reduction of Guadeloupe etc.* (3d ed. Birmingham, 1762), pp. 20-30, 62-63; 'An account of the expedition against the islands of Martinico and Guadeloupe, January 1759,' in Pringle to Loudoun, 2 February 1759, Loudoun Papers, Huntington Library, hereafter cited as: 'The expedition,' Loudoun Papers; Haldane's 'Proceedings,' Newcastle Papers, Add. MSS. 32887, British Museum (Transcriptions in Li-

The only way one can account for the inactivity of the next thirty days is to conclude that the commanding general was a dying man. His men were dying, too. In the unhygienic régime of an eighteenth-century army, while nothing much was being accomplished, half of Hopson's army was dead or incapacitated by fevers and dysentery when they had been in the islands only two months. A West Indian commander had to fight his men off in a hurry before they died of disease. Opposed to the rapidly decomposing British land force were the acclimated defenders, busily digging themselves in, in the mountains about six miles southeast of Basse Terre, where they did not lack for anything except munitions and where they had many slaves to do all of the heavy work. This withdrawal to the hills was a recognized part of West Indian defensive action. Their position was by nature very strong but their soldiery was of very poor quality. Nevertheless only one well thought-out action was fought during the next thirty days. Otherwise the land forces occupied themselves with landing supplies and securing the sector near the citadel, with inspections, paper work, petty skirmishes, manifestos to the inhabitants, and abortive negotiations with the still defiant governor. On their side the French continually harassed the pickets and outposts, causing many alarms and exhausting marches among the British and, no doubt, in that way adding many names to the sick books. The naval force, except for one action, spent its time re-rigging after the cannonade, sifting the town's ashes for usable shot, knocking out small batteries in creek mouths, and trying to cut off the island's trade with the Dutch at Saint Eustatius. Meanwhile bottoms fouled and the crews grew sickly. The period of inertia came to an end on 27 February when the tired Hopson died of the fevers which had more than decimated his idle men, to be succeeded by the energetic Major General John Barrington, who was as active as Hopson had been slack.[5]

The only notable event of the month preceding Hopson's death oc-

brary of Congress), hereafter cited as: Haldane's 'Proceedings,' Newcastle Papers; Robert Beatson, *Naval and military memoirs, 1727-1783*, 6 volumes (London, 1804), II, 236-241; Edward Cust, *Annals of the wars of the eighteenth century*, 5 volumes (3d. ed., London, 1862-1869), II, 285; Pares, p. 250, citing Hurault to Beauharnois, 28 February 1759, Archives Nat., Colonies, $C^8$ $A^{62}$; Hopson to Pitt, 30 January 1759, Colonial Office 110/1 (Transcriptions in Library of Congress).

[5] Pares, pp. 245-246, 253-256, 263, citing Nadau du Treil to Berryer, 25 December 1758, Archives Nat., Colonies $C^7$ A 17 and 'Guadeloupe, note of measures to be taken in case of an invasion,' ibid., p. 286, citing Beckford to Pitt, 11 September 1758, in *Chatham Correspondence*, I, 353; Pitt, *Correspondence*, I, 386-387, 386n., 411-412, II, 23-26, 29, 45-50, 54-56; Gardiner, pp. 30-40, 42; *Antilles françaises*, p. 4; Crump to Pitt, 4 October 1759, and 26 December 1759, Moore to Pitt, 6 March 1759, Barrington to Pitt, 2 March 1759, Man to Pitt, 1 December 1758, Colonial Office 110/1; Haldane's 'Proceedings,' Newcastle Papers; Beatson, II, 241-245; 'The Expedition,' Loudoun Papers; Forbes, p. 63; Burt's Account, Treasury 1, Bundle 390, f. 108-116 (Transcriptions in Library of Congress); Haldane to Newcastle, 30 January 1759, Newcastle Papers, Add. MSS. 32887, f. 392; Amherst to Pitt, 28 February 1759, Colonial Office 5/54 (Transcriptions in Library of Congress).

curred early in February when Moore secured the loan of some Scots, brigaded them with Marines and sent them against Fort Louis, the chief strong point of Grand Terre, in an amphibious operation involving a ship, 4 frigates, 2 bombs and 3 tenders, the combined force being under command of Captain William Harman. The operation (14 February) would be familiar to many now living: after a six-hour bombardment the Marines and soldiers scrambled through the surf (wetting their powder) and emerged on the beach in a rush of foam to carry the shore defenses against a dazed militia garrison which fled from the shining bayonets. This successful engagement cut the usual line of communication between the two halves of Guadeloupe.[6]

Barrington inherited a sticky mess from Hopson, back at Basse Terre. Less than half of the original land force was fit for duty, too few to provide a complete relief for the extended works and installations necessary where they were, and there was no way to distress the colonials of Basse Terre except by direct assault on the Dos d'Âne which was the strongest natural defense of the island. Barrington's generals agreed with him, in formal council, that they should leave a garrison in the citadel and take the rest of the army to Fort Louis.[7] The citadel's garrison was brought up to strength, rations were ordered, and the remainder (about 2,000 men) embarked on 6 March, leaving two ships in the roadstead to cover the garrison. When he arrived at Fort Louis, five days later, the indefatigable Barrington was immediately off in a boat reconnoitering both shores of the bay; this was typical of the man. The aggressive leadership, so absent up to this time was now at work.[8] It was needed. Counting out the necessary garrison of Fort Louis, the new commanding general had only about 1,500 men to carry out his grand design of conquering both halves of Guadeloupe from his new base on Grand Terre.

## II

Commodore Moore had coöperated fully in the troop movement from Basse Terre to Grand Terre but in the midst of the transfer he received disconcerting news: a French amphibious force under Lieutenant General and *chef d'escadre* Bompar, composed of 8 ships and 3 frigates, bearing a battalion of Swiss and other troops, had arrived at Martinique. At

[6] Gardiner, pp. 37-39, 41-44; Beatson, II, 245-247; Forbes, p. 63; Pares, p. 250, citing Beaulés to Beauharnois, 21 February 1759, Archives Nat., Colonies, C[8] A 62; Pitt, *Correspondence*, II, 54-56.

[7] Over 3,000 men were ill, but less than 200 had been killed and wounded in action on Gaudeloupe. Men were falling ill at the rate of forty-five a day and the death rate was two daily.

[8] Barrington to Pitt, 2 March 1759, enclosing return signed 'G. Corryn' (the physician's 'purveyor'), Pitt memoranda of 6 May 1759, Colonial Office 110/1; Pitt, *Correspondence*, II, 45-50, 52-54; Gardiner, pp. 43-44; Beatson, II, 247-248; Corbett, I, 382-383

a naval council it was decided (rather surprisingly) to base the British ships on Prince Rupert Bay, on the west coast of Dominica which was next island south of Guadeloupe, so as to be able to counter any move of Bompar's and be ready to support Barrington when needed. The twentieth-century second-guesser must remain puzzled since the bay at Fort Louis offered all advantages that Prince Rupert Bay did, except that desertion might be less inviting on sparsely populated Dominica. Barrington was helpful, even lending 300 badly needed regulars from his weakened brigades to serve as Marines in the fleet, and organizing an 'army fleet' of bombs, tenders and locally hired craft, with one of Moore's more obsolete frigates to guard the transports and maintain tactical control of the nearby beaches.[9]

We now know that Bompar was not as formidable as he might have been. His fitting-out had been delayed and two of his ships were in use to carry stores, and their guns were unmounted. Moore was in better condition, for two reasons. First, the Admiralty saw to it that there was a steady flow of ships' stores from North America to the West Indies and, second, dockyards were kept up so that a fleet could be fed and fitted without returning home. Dominica provided a safe and pleasant anchorage, and there the fleet lay for almost six weeks after 16 March, during which time there were no naval events of importance. Then, on 1 May, Moore received shocking intelligence: Bompar had landed on Grand Terre, well to windward of Moore, had taken guns and prisoners. That was all the Commodore knew; his enemy was out in force, and to windward.[10] What had been happening to Barrington?

Barrington had been writing an honorable chapter in the history of the British arms. Controlled by a mission to conquer territory from low-trained defenders on their home grounds, and armed with a dwindling but toughened body of amphibious regulars, he elected to fight a war of detachments, attacking several strong points at approximately the same time in order to keep the scattered defenders from uniting their petty garrisons. The British garrison in Basse Terre's citadel could be counted on to 'contain' the defenders in the Dos d'Âne above it, since their saddleback ridge led directly to the richest part of Guadeloupe, called the Capesterre. The Romans knew this strategem: *divide et impera*. In little more than a week after Moore steered for Prince Rupert Bay, Barrington's force was flexed for striking. First an improvised brigade splashed ashore

[9] Gardiner, pp. 42, 44-45; Corbett, I, 383-387; Pitt, *Correspondence*, II, 94-97.

[10] Pares, pp. 185, 268-271, 273-274, citing several French documents not available to American students at this time; Gardiner, pp. 49, 51, 58; Beatson, II, 249; Pitt, *Correspondence*, II, 83-84.

between Sainte Anne and Saint François, marched inland, divided itself and took both towns at once, with little loss; these attacks sucked 300 defenders from the village of Gozier, and Gozier was taken also, by a detachment from Fort Louis a few days later. The Sainte Anne-Saint François raiders returned by boat, but the Gozier victors forced their way back to Fort Louis overland, coöperating with a sally from the fort which drove the besiegers into the woods and cane brakes. These four admirably planned and executed actions (25 and 30 March) so demoralized the defenders of Grand Terre that they offered no more resistance. Half of the job was done.[11]

## III

With Grand Terre disorganized and the leeward side of Basse Terre contained by a garrison, there remained the low rich windward side of Basse Terre with its fat plantations and its row of little valley-mouth towns—as rich as any agricultural area of that size in the eighteenth-century world. To reduce it Barrington planned to continue his war of detachments, but simultaneous nocturnal thrusts by his amphibious veterans against Petit Bourg, Goyave and Sainte Marie were foiled by foul weather and the boats put back to Fort Louis, having accomplished nothing except to tip off the defenders. Power not guile would be needed thereafter. Therefore, on 12 April 1450 weathered veterans landed near Arnoville under Brigadier General John Clavering (Barrington was 'laid up in a most severe fit of the gout') to force the Riviere du Coin, which was done by orthodox tactics using a rolling artillery barrage ahead of the platoon-firing advance. From there it was a comparative *blitzkrieg*. During the night the defense of the ford at Riviere Lézarde, two miles south, was flanked in canoes (the infantry should all have had coxswains' ratings by this time), and the tired, sweating lobster-backs slogged down the road to the fortified town of Petit Bourg where a bomb-ketch by careful coördination lay off shore leisurely bombing the town. When troops appeared on hills commanding the place the desperate colonials withdrew to the south and Clavering's troops lay there on 14 April to receive rations by sea.[12]

The British had known for some time that the French of Guadeloupe

[11] Corbett, I, 385-387 (his chronology differs from Barrington's dispatches in Pitt, *Correspondence*); Gardiner, pp. 47-50 (he seems to have been cruising off Saint Eustatius at the time); Pitt, *Correspondence*, II, 94-98; Beatson, II, 248-253; Sir John Fortescue, *History of the British Army*, 13 volumes (London, 1899-1930), II, 39-40; Pares, p. 251 citing Dubourg de Clainvilliers' narratives, Archives Nat., Colonies C⁹ A 62.

[12] Pitt, *Correspondence*, II, 98-99; Clavering to Barrington, 24 April 1759, *The Gentleman's Magazine*, XXIX, 273-274; Beatson, II, 253; Cust, II, 288; Fortescue, II, 254.

and Martinique were receiving supplies from the Dutch at Saint Eustatius, in Dutch bottoms. Two Anglo-Dutch treaties (1674 and 1678) could be argued, one on either side, in the matter and late in February Moore decided to leave diplomatic dialectic to the Foreign Office and get on with his war by blockading Saint Eustatius. This was done by two fast ships from 2 or 3 March to 16 or 17 March, which was not long enough to accomplish much. The chief depot on Guadeloupe for Dutch supplies was at Baie la Mahault on the northern bay of Guadeloupe. Accordingly on 15 April a force of 750 men was sent back, along the road down which they had come to Petit Bourg, to Baie la Mahault where the little port and its guns were found to be abandoned and the buildings and considerable Dutch stores were burned. The force then burned and wasted the countryside on their seven-mile march back to Petit Bourg. While Baie la Mahault was being wasted, a raiding party had gone south from Petit Bourg to the battery at Goyave. The French gunners had fired a salvo and fled, leaving their pieces to be spiked by the raiders who then withdrew to Petit Bourg. After two days of rain the British advanced south again, flanking some roadblocks, re-securing Goyave, and forcing Sainte Marie by frontal assault (not supported by artillery) against small arms and big guns. The French had had enough. They abandoned all organized resistance and when Clavering's men reached the richest part of the Capesterre (21 April) Clavering was met by a white flag. Its civilian bearers were hurried back to Barrington, now at Petit Bourg.[13] In eight days the British had performed eight successful military operations to subdue thirteen miles of coastline. Three of these operations were of that most difficult sort, called 'amphibious.'

Privately, the British were delighted to negotiate a surrender since it was not at all certain they could storm the mountain force in the Dos d'Âne above Basse Terre before the so-called sickly season came and before the hurricane months were upon them. The French, in private correspondence, were not so sure they could hold their hill fastness since they foresaw no help from outside and the British had taken fifty guns which would be very useful for a siege. So, when the civilians saw their slaves taken and smelled the smoke of their sugar houses, they convinced the reluctant governor that it was time to discuss capitulation. On 1 May separate capitulations were agreed to for the civilians and for the mili-

[13] Gardiner, pp. 42-43, 88; Pitt, *Correspondence*, I, 396-397; Pares, p. 456; Clavering to Barrington, 24 April 1759, *The Gentleman's Magazine*, XXIX, 274.

For an introduction to the problem of Saint Eustatius in the Anglo-French wars of the eighteenth century see Samuel Flagg Bemis, *A diplomatic history of the United States* (New York, 1936), pp. 36-37, and J. F. Jameson, 'St. Eustatius in the American Revolution,' *American Historical Review*, VIII (July, 1903), 683-684.

tary. For the civilians the terms were practically *status quo ante bellum* except that civil government was to be in the name of George II and the inhabitants were to have the commercial privileges of the British unless charters or navigation acts conflicted. The military forces received full honors of war and the privilege of evacuating themselves, their families, servants and personal property. Altogether it was a mild conciliatory convention between authorized representatives of Christian nations.[14] Some British sugar proprietors grumbled because competition was not thereby destroyed, but Pitt ignored them.[15]

Now, what of the report Moore had received of a landing by Bompar on Grand Terre? It was true, so far as it went. While Barrington was directing his war of detachments the tardy *chef d'escadre* was frantically trying to get to sea with some sort of useful force. Although Martinique, he said, was in such 'disarray' as to be on the edge of anarchy he got to sea in six weeks, reached up the windward side of Dominica (thereby easily avoiding Moore's fleet) and landed in the blackened ruins of Sainte Anne. There he sent an officer off to find the commandant of Grand Terre but the 'messenger-to-Garcia' returned only with news of the negotiations in the Capesterre. Bompar himself went to the camp of the commandant where the governor of Martinique, Beauharnois, found them at three in the morning—Bompar urging further resistance, the dispirited commandant refusing to fight (or, rather, to be fought) any longer. Bompar and Beauharnois reëmbarked without trying to communicate with Du Treil, the governor of Guadeloupe. Barrington heard that Bompar had a strong force with extra arms for the islanders and was pleased to have begun his capitulations before Bompar could act. Moore knew nothing of this until 1 May, two days after Bompar's withdrawal. On 2 May he began an inglorious chase of the French squadron, beating between Dominica and Marie Galante, trying to make easting against the tradewind and the slight leeward current which sets in there. In fifty-seven hours they made six miles to the east. Bompar rode at anchor in Fort Royale Bay, Martinique, on 6 May. On 7 May Moore gave up, hoisted his flag, and bore away for Prince Rupert Bay. As the Dominicans amused themselves, 'the *English* went on one Side of the Island, and the *French* on the other, for fear they should meet.'[16]

[14] The texts were published in *The Gentleman's Magazine*, XXIX (1759), 275-277.

[15] Beatson, II, 257; Pares, pp. 186, 247-248, 248n., 257, citing De Clainvilliers' narrative in Beauharnois to Berryer, 12 July 1759, Archives Nat., Colonies C$^8$ A 62, Du Treil to Massiac, 25 December 1758, Archives Nat., Colonies C$^7$ A 17, Beauharnois to Du Treil, 8 February 1759, C$^8$ A 62; Gardiner, 58; on the sugar proprietors see Newcastle to Hardwicke, 14 June 1759, Newcastle Papers, Add. MSS. 32892, f. 58, British Museum (Transcriptions in Library of Congress).

[16] Waddington, III, 357-358; Pitt, *Correspondence*, II, 104-106; Beatson, II, 258; Gardiner, pp. 69-70, 72-74.

## IV

The mission was not completed when the capitulations were signed. There were reports and inventories to be made and the capitulations must be put into effect. About 140 of the army had been killed in combat and perhaps 300 or 400 had died of disease. About 320 had been wounded and over 3,000 had been evacuated because of illness. Naval mortality figures are so incomplete as to form no basis for estimates. The French régime was quickly liquidated and British officials (from the army) set to work strengthening their installations and helping the inhabitants to rebuild their towns and sugar houses. Plans for the reduction of neighboring Marie Galante were made, and a garrison of 2,500 men was recommended to Pitt as adequate for Guadeloupe. Belated confirmation of Barrington as co-commander *vice* Hopson arrived from Pitt.[17]

Consolidation was completed in little more than a month. The satellite islands Petite Terre, Désirade and the Saintes surrendered to the co-commanders as soon as they were summoned and Marie Galante capitulated to a show of force, before 19 May. Moore assembled his ships in Basse Terre roads in preparation for convoying 'sugars' to England and troops to America. Bompar was discovered by a prying cruiser to be lying under the batteries of Grenada, and was kept under surveillance. Twelve hundred enlisted men with their officers (including the Black Watch) were sent to General Amherst in North America (but arrived after the great decision had been reached by Wolfe at Quebec). Three regiments were brought up to strength and left in garrison (Fourth, Sixty-third, Sixty-fifth) and three were sent home with Barrington, each with less than twenty per cent of its paper strength, after casualties and drafts (Third, Sixty-first, Sixty-fourth). Most of the naval force returned home late in the summer, convoying over 200 West Indian merchantmen. Moore remained in command of his station until the following spring when he was relieved by Sir James Douglas. No reprisal was attempted by the French in the West Indies, although the fleet under command of La Clue which was defeated by Boscawen at Lagos may have been intended at one time or another for the relief of Guadeloupe, despite the usual opinion that La Clue's ships were going to Brest to cover a projected invasion of Britain.[18]

[17] *The Gentleman's Magazine*, XXIX, 292; Gardiner, pp. 61-64, 73-75; Pitt, *Correspondence*, II, 101-106, 112-114.

[18] Pitt, *Correspondence*, II, 112-114, 135-136, 142-143; Gardiner, pp. 74-90; Robert Skene, 'A return of the draughts sent to N. Amer. Gaudeloupe 25th June 1759,' endorsed 'M. G. Amherst 10th August 1759,' War Office 1/5 (Transcription in Library of Congress); Pares, pp. 278, and 184n.-185n., citing Archives Nat., Colonies, B 109, Archives Nat., Marine $B^2$ 363, Berryer to Beauharnois, 9 November 1759, Archives Nat., Colonies B 109, and *memoire*, 3 March 1760, $C^8$ B 10; Newcastle

The usual feathers and emoluments were distributed to noteworthy officers. Among the rewards was the permanent rank of Major General for Barrington, but Moore was not given comparable rank until 1762, when he was promoted Rear Admiral.[19]

## V

The exercise of command by the British is worth attention. From a close examination of the correspondence recording the campaign one conclusion almost compels acceptance: despite the difficulties of communication, unity of command was achieved through Pitt's vigorous personal direction of the war as a whole. Under Pitt the War Office and the Admiralty seem to have been reduced to administrative offices, and high policy was made by Pitt (or in his name) alone. The channel was Pitt to commanders and back again with no intermediary office, and that great and forceful man was great and forceful in his orders. His correspondence might be read with profit by every civilian who has authority over his country's arms.

In the field the army command, when in Hopson's charge, was exercised with hyper-caution (perhaps pathological) but under the younger and more optimistic Barrington an aggressive and intelligent campaign was successfully waged. The capitulations have been criticized as too soft but seem to have been in harmony with the eighteenth-century ideal of conciliating a defeated enemy so that he would accept the peace and not remain vengeful because of humiliation. Barrington was also generous in praise of his subordinates and his naval colleagues.

The naval command has been publicly and specifically charged with several defects and defections of which the gravest was that Bompar's success in landing at Sainte Anne was owing to negligence on Moore's part. It is certain that as long as the trade-wind blows and as long as the westerly current sets into the Caribbean between the 'Antilles françaises' no square-rigged ship in Prince Rupert Bay will be able to prevent another square-rigged ship from sailing from Martinique to Grand Terre. Moore would seem better advised to have stayed at anchor in the bay off Fort Louis or to have blockaded Bompar at Martinique. To have used the leeward bays of Saint Lucia, as a station from which to pounce on Bompar if the *chef d'escadre* sailed out of Martinique, would have put Moore at an

Papers, Add. MSS. 32892 and 32893, *passim.*; Barrington to Martin, 28 August 1759, Treasury 1, Bundle 390, f. 104-105.

[19] In addition to Moore, six captains of this campaign eventually achieved flag rank: Clark Gayton (1770), Robert Man (1770), Robert Hughes (1770), Molineaux Shuldham (1775), Peter Parker (1777), George Mackenzie (1777), James Gambier (1778).

awkward distance from the army if the army needed naval support in a hurry. Moore was also criticized adversely by local civilians who alleged that he gave less protection to commerce than he should have. Moore's orders were explicit: to conquer territory. Commerce-protection must wait. And not all of these animadversions can be taken as made in good faith since some of the civilians who complained against Moore had a monetary interest in getting rid of him, the reason being that he had been zealous in trying to prevent illegal trade between the British and French islands (for which zeal he was burned in effigy at Barbados). Pitt gave no comfort to any of Moore's detractors and Pitt was the competent critic he had to satisfy.[20]

It is plain that the French defense of Guadeloupe was poor. The inefficiency of the French militia was the logical result of the social structure of the island where an agrarian society was dominated by a few great planters and the militia consisted of many officers and few enlisted men (a fact which J. E. B. Stuart remarked in Virginia a century later). The planters lived high on their estates and when called out for defense were quite unused to hard living. Slaves who might be induced to fight in return for a reluctant promise of freedom required more supervision than the few proprietors could give. And the privateersmen who might be on the beach and ready for a fight from time to time were said to have burned and looted their fellow countrymen's estates so freely as to be more destructive than the enemy. The French colonial troops were few in number and low in quality, being sedentary, undertrained and frequently distracted by private commercial enterprises with which to augment their miserable pay. Even so, a great commander—say Clive—might have done something with the defense. As it was the uneasy defenders were scattered in many little garrisons which sat in trenches and were gobbled up one by one at the leisure of Barrington and Clavering. This was an ill-faring island where wealth accumulated and Frenchmen decayed. At the risk of too broadly generalizing one might say this was a microcosm of eighteenth-century France, where a nation saved once by an army which took its spirit from a St. Joan was being lost by a court where the moral tone was set by a Pompadour.[21]

The treatment of the defeated French officers by their own govern-

[20] On Moore's relations with local traders see Gardiner, p. 46, who synopsized the complaints with apparent pleasure. *The Gentleman's Magazine* unsystematically listed merchant ship losses through 1759. See also Barham, *Letters and papers of Charles, Lord Barham*, J. K. Laughton ed., 3 volumes (London, 1907-1911), I, 20-26, 22n.; Pares, pp. 198, 300, 300n.; Moore to Pitt, 25 July 1759, 20 October 1759, and Crump to Pitt, 26 December 1759, Colonial Office 110/1.

[21] For an acute analysis of French West Indian military weakness see Pares, pp. 227-240, 251-252.

ment was rigorous. Governor Nadau Du Treil was degraded and sentenced to life imprisonment, as were Polherie, the governor of the citadel at Basse Terre, and Beaulés, the commandant on Grand Terre.[22] Beauharnois of Martinique, who gave no significant help to Guadeloupe, and Bompar, whose campaign was well described as 'stérile,' received no public reprimands. The total effect of the defense can be epitomized by saying that the British suffered more from the climate than from the French.

The news of the reduction of Guadeloupe was received gladly in Britain by all but the sugar men who saw it as competition within the colonial system. In Paris the disappointment was sharpened because the ministry had thought the climate and Bompar would have made the British withdraw. In the West Indies the inhabitants of Martinique began to envy the increasing prosperity of their neighbors to the north under British commercial privileges while their own sugar moved more slowly than ever in the blockaded stream of French commerce. The British merchant fleet profited from the capture of a nest which had hatched many French privateers.

In the peace which followed the war (Pitt was not there to make it) Guadeloupe was part of a deal whereby Lord Bute traded certain territory for an admission that the Mississippi River was the western boundary of British North America.[23] This seemed an immediate gain but may have been a tremendous British mistake since the absence of a good British West Indian naval base north of Barbados permitted a French naval force to use the West Indies as a stepping-stone in the campaign which ended when Cornwallis was trapped at Yorktown in 1781.[24]

Thus the Insular Campaign of 1759: To gain a prize to be used for diplomatic bargaining Pitt sent an amphibious force against Martinique in 1759. Failing there the commanders attacked Guadeloupe. Opposed more by climate than by the inhabitants, victory was gained in three months of fighting. At a time when the British commanders were beginning to be concerned over the approach of the 'sickly' and hurricane season the inhabitants took the lead in capitulating. Fortunately for the British the surrender was begun before a tardy French naval force eluded the badly stationed British fleet and landed reinforcements which were

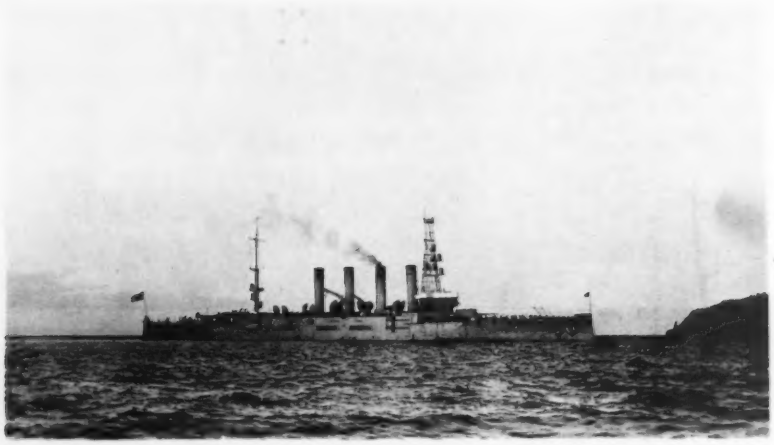
[22] Waddington, III, 354-355, 358-360; Georges Lacour-Gayet, *Marine militaire sous le règne Louis XV* (Paris, 1910), pp. 392-393 (bitter, not accurate, rather unfair to the French officers).

[23] The famous Canada-Gaudeloupe debate was an episode of this negotiation and is admirably summarized by Pares, pp. 216-226.

[24] Edward Channing, *History of the United States*, 6 volumes (New York, imprint of 1932-1936), III, 288, estimated that the return of the French Antilles weakened the strength of the Royal Navy in the new world by one-quarter.

rejected by a defeated and dispirited French commandant. Chief credit for the victory seems to belong to Pitt himself and to Major General Barrington; Commodore Moore's error of judgment in stationing his squadron almost delivered the army into the hands of the French amphibious commander, Bompar. The reduction of the island was a blow to French privateering, and it was one of several pawns traded for recognition of the Mississippi as the western boundary of British America in 1763. The French defense was a series of blunders, for which several French commanders were punished with great severity.

View of the Burning of the Town of Basse-Terre, Guadeloupe, 23 January 1759
*From Richard Gardiner,* Account of the expedition to the West Indies, against Martinico *(Birmingham, 1762)*



U.S.S. *Maryland* in Acapulco Harbor, Mexico, 1912

Acapulco after the 1912 cyclone: the least damaged street

Acapulco after the 1912 cyclone: clothes drying in the ruins

*Reproduced by courtesy of Captain J. M. Ellicott, U.S.N.*

# *A Cyclone Which Seemed to Have No Center*

*BY CAPTAIN J. M. ELLICOTT, U.S.N. (Ret.)*

IT is well known to weather students, especially those who follow the sea, that cyclones are violent hurricanes swirling around a comparatively calm center whose diameter is more or less proportionate to the diameter of the cyclone itself, the calm area often being clear with the sky visible overhead. In cyclones on the coast of Patagonia this is called *El Ojo del Toro,* or bull's eye, of the storm. This writer has been through one on that coast and knows how aptly it is named.

On 28 October 1912, the U. S. S. *Maryland,* under my command, arrived at Acapulco, Mexico, to fuel *en route* to rejoin our Pacific Fleet in Nicaraguan waters. Mexico then being in a state of insurgency under the guerilla leader Zapata, Acapulco was heavily garrisoned by government troops under General Galliardo, upon whom I called.

Coaling began next day but was slow. Our own launches had to tow lighters to and from the ship.

The thirtieth opened with rising wind and falling barometer, the wind causing a stiff, choppy sea which made coaling hazardous and it was discontinued, the last lighter having been swamped after leaving the dock.

At 10 A.M. the exhaust line of our main engines split.

By noon the wind had reached strong gale intensity with no change in direction and a rapidly falling barometer. All boats except the two steam launches were hoisted, these being allowed to ride tandem astern with steam up, and our port anchor was dropped under foot. Everything about the decks was lashed and I called the senior engineer officer to learn how soon the exhaust line could be repaired. He said a thorough job would take three or more days. The alarming fact was borne in upon me that we were to go through a violent hurricane on a lee shore within 1,000 yards of a rocky beach and with no steam up. I recalled a similar situation on an earlier cruise, in Todos Santos Bay, Lower California, when by

strenuous effort we patched up our steam line and got under weigh just as the ship began to bump.

I called in the entire engineer staff, described our perilous situation and said we must have steam within four hours.

By 7 P.M. the storm had reached hurricane force. Our radio antenna had come down with a crash, wrecking the wind gauge. We veered to sixty and thirty fathoms on our anchor chains and prepared to grin and bear it. A few moments later, to my great relief, the senior engineer reported that he was getting up steam.

With a so-wester strapped under my chin and a raincoat lashed around me at my waist I made my way to the bridge through intense darkness and a suffocating, slashing deluge of rain. The officer of the deck seized me in the darkness and yelled in my ear:

'Where'n hell's the skipper?'

'Not in hell yet, Crutchfield' I said, 'but right in front of you. I'll take over. Take the forecastle and watch the drift lead and chains with a portable. The lights are coming on. I'm going to use the engines. Take a flash light and flash to me when chains are taut and turn it off when they slack up.'

It was impossible to use the upper bridge as it was unprotected and pretty well wrecked so I took the navigator, quartermaster, helmsman and two signalmen into the second bridge, which was glass enclosed, and sent word to the officer of the quarter-deck (an exceptionally reliable young ensign, now Rear Admiral Beary) to keep a searchlight on the launches astern and the beach behind them.

Then, for an hour or more, we eased the strain on the chains by steaming ahead when Crutchfield flashed his light, and slowed to a bare turn over when his flash went off. The wind was now a screaming hurricane and threatened to blow in the storm windows of the bridge.

Shortly before 9 P.M. word came from the quarter-deck that a glimpse of the beach through the rain indicated that it was getting nearer. There arose in my mind a spectral vision of the wrecked vessels in Apia harbor after the historic Samoan Hurricane.

I decided that it was time to try to get to sea and called 'all hands up anchor,' sending word to the officer of the quarter-deck to be ready to cast off the launches and direct them to seek what shelter they could behind a nearby promontory, and sending the executive officer to the forecastle with instructions to heave in on the chains as I nursed the ship up to the anchors with the engines. He had scarcely gotten there, however, when the helmsman sang out:

'Something wrong with the compass, Sir. The card's swinging around.'

I looked quickly and saw that it was true. Then I sent the quartermaster to look at the upper bridge binnacle and he reported the same thing was happening there.

Recollection came to me of an occasion in the harbor of San Juan, Puerto Rico, on another ship when the bridge compass did the same thing after the foremast had been struck by lightning.

But here there had been no apparent electrical disturbance!

All agreed that it would be impossible to get to sea in the impenetrable darkness with deranged compasses so I sent word to the executive officer to hold everything and wait.

Had we been equipped with a Sperry Compass I would have known that the ship was swinging around and not the compass card.

For a time we stood in straining silence. Presently the navigator sang out that the barometer was rising.

Then I realized what was happening. The *axis* of the cyclone had passed over us and there was no appreciable 'center.' We were being pushed around by the other half of the hurricane.

It was soon evident that this was true for the compass card finally steadied, indicating that we were heading nearly in the opposite direction, and the officer of the quarter-deck reported there was no longer any shoreline visible astern.

But the hurricane was continuing with undiminished fury.

I described to those around me what I believed had happened and that I felt sure we now had at least a mile of harbor room astern and could sit tight until the storm abated.

At 9:45 the wind began to moderate. By eleven it was down to a moderate gale and I ordered 'pipe down' and secure. At midnight it was nearly calm and I turned in with intense relief.

Early next morning I went on deck to look around. The scene ashore was ghastly. Acapulco had been almost completely razed and all shipping was sunk, wrecked or stranded along the shore. I hastened ashore, landing at a demolished pier and climbing through its wreckage to a remaining stub end. I was met by General Galliardo, the Captain of the Port and our vice consul.

The general said his soldiers were clearing the streets and searching the ruins; that no dead had been found and not many injured, at which he was surprised.

I asked the Captain of the Port if he had noticed any lull in the storm about nine o'clock. He said he had not; that the wind gauge blew away

with the roof of the Municipal Building about that time, when it was recording nearly a hundred; that he was forced then to take refuge in the basement but the roar of the wind could be heard undiminished. The vice consul said, however, that about nine o'clock wreckage which had blown in one direction seemed to be blowing back again.

Just then the Alcalde pushed his way through the gathering crowd and grasped my hand in both of his.

'Ah!' he exclaimed, 'El Capitan muy simpatico!'

'How so?' I asked.

His answer was to the crowd:

'He kept his searchlight on the entrance to the cañon, enabling our people to seek shelter in it. He saved many lives.'

I smiled and let it go at that.

# *The Meeting of the Ships* Dauntless *and* Thomas Dana *off Cape Horn*

*BY DR. WILLIAM ALLEN WILBUR*[1]

A MARINE painting of 1874, done in Liverpool, shows two clipper ships under shortened sail meeting somewhere south of Cape Horn. The sea is shadowed by lifting clouds, and a gray morning light is on the picture. Against the northern horizon — a vast shadow like an iceberg — is the rock of Cape Horn, and the northeast is streaked with the pale brightness of the dawn.

Two Noank men, brothers and masters of ships, wrote the story separately.

The ship *Thomas Dana*, Captain John P. Wilbur, from San Francisco towards Liverpool, 47 days out on Thursday, 20 August 1874, was 7000 miles from San Francisco. The log-book of this date vividly portrays Cape Horn weather. The sea day begins at noon:

> First part strong gales from the northwest, fearful sea running, rainy, dark-looking weather. Ship scudding under foresail and lower fore-topsail and lower main-topsail. Seems to me I never saw such a sea before. Have had to watch the steering close; it seems risky running, but am loth to come to. Ship fills herself even with the rail two or three times this afternoon. At 6 P.M., barometer 28.82, wind lulls somewhat, and it becomes clear overhead. Barometer also commences to rise. At 10 P.M. sea becomes more smooth, made topsails and reefed mainsail. Midnight barometer 29.12. Latter part, strong breeze from northwest with fine weather; at noon nearly calm. Diego Ramirez bears about west-north-west twelve miles: very fortunate to make such a landfall. Barometer had gone down about one-tenth at noon.

Cape Horn, latitude 55° 58′ 40″ south, longitude 67° 16′ 10″ west, the southernmost point of the Hermite Islands, 500 feet above the sea, is the turning-point of ships going around South America. Friday, 21 August, at noon, begins in latitude 56° 30′, longitude 60° 20′, with entries as follows:

[1] In this last story, the late Dr. Wilbur, son of Captain John P. Wilbur, recorded an intimate and touching incident that is still a cherished memory, not only of the Wilbur family, but of many neighbors and friends. The article comes directly from the John Packer Association Bulletin, of which Mrs. Carl C. Cutler is editor, through the kindness of Miss Joanna C. Colcord.

Commences light airs from northeast. Cloudy weather at 4 P.M., barometer 28.98, black-looking squall in the northwest, clewed up all the light sails before it struck. At 9.30 P.M. Cape Horn bears about north five miles. Strong breeze from west, fine moon and clear. Midnight, moderate breeze.

About 5.30 this morning, just before daylight, lookout reported ship ahead. I was on deck just in time to answer his hail as he passed by to leeward. Soon after passing, he rounded to and came after us on the port tack. I thought it might be my brother when he went by. And this maneuver confirmed me in thinking it was my brother [in] the ship *Dauntless*. I wore ship and came to on the starboard tack, main and mizzen-topsails aback, waiting for the coming of the welcome ship, which proved to be the *Dauntless* — my only and very dear brother. We had both hoped and prayed that we might come together on this voyage. But how strange that we should thus meet on this great and wide sea, both steering for each other, and knowing nothing of it. Only one-half (perhaps one-quarter) of a mile apart, and neither of the ships would have been recognized.

My heart softens, the eyes of faith look upward: I see the guiding hand of a loving Heavenly Father. It is all clear now; nothing comes by chance. The same watchful eye that marks the sparrows when they fall, marks the progress of two ships, and steers them together on this great ocean amid the darkness of night. The weather was such that it was not prudent that either of us should board the other, but we had time to see and pass a few kind words of greeting; found all well. There we separate — he sails one way, we the other. So we meet on life's voyage, and so we part. I trust that by and by we shall all safely reach that haven of rest from which there shall be no more going out, no more parting in the great home on high — for there shall be no more sea.

My wife and little boy both on deck to greet my brother this morning.

The ship *Dauntless*, Captain Robert P. Wilbur, from New York towards San Francisco, has the following entry in the captain's log-book:

This has been one of the days of my life in which I have plainly seen the working of a kind Providence in answer to prayer. At 6 A.M. my first officer, Mr. Nelson, who had charge of the morning watch, saw a light on the starboard bow coming for us; then, in a shorter time than it takes to tell it, he saw it was a large ship with a heavy press of canvas bearing down on us. We were by the wind on the starboard tack; she was running free with the wind on the port side. To avoid a collision Mr. Nelson gave orders to starboard the wheel, lowered our spanker so our ship swung off quickly, giving the other ship the right of way that belonged to us. As she was passing us, Mr. Nelson hailed her, 'What ship is that?'

The answer came back, '*Thomas Dana*.' Then a voice from the *Dana*, 'What ship is that?'

We answered '*Dauntless*,' and sung out 'Heave to!' And we wore our ship around and put after her.

As it was getting light in the east we could see that they were shortening sail, and they wore around, heaving to on the starboard tack with the main yard aback. We ran down to and around her, coming up under her lee. We backed the main yard

and thus slowed down, and had a good chance to talk together. It was a pleasure indeed to talk to them and see my brother, his wife and little Rossie, face to face.

At 8 A.M. we parted, they for Liverpool, we for San Francisco. God only knows when and where we shall meet again. We hope to meet again on earth, but if it is ordained otherwise, I pray we may all meet an unbroken family in Heaven.

One strange thing about this providential meeting: at 4 A.M. this morning I woke out of a sound sleep, notwithstanding I was up late last night passing through the Straits of Le Maire. It seemed to me something was going to happen. I got up, dressed, put on my coat and boots, lay down on the side of the bed, but not to sleep – waiting for something, I know not what. I got up again, went to the companionway, told Mr. Nelson to look for Barnevelt Island, although I did not think the ship was up to it; went back and lay down on the outside of the bed – waiting for something, I knew not what. About 5.30 the steward brought me coffee, and I had just finished when the meeting-time came.

My brother and I had both prayed for this meeting.

This is the story of the ships, as written separately in the two log-books. The course by the chart that each ship sailed is about 13,000 miles; these two lines intersect at only one point – off Cape Horn. The ships reached the intersection at the same time; they were actually in danger of collision, and they did not pass in the night. One incident not in the log my uncle, the captain of the *Dauntless*, told me. The *Dauntless* sailed around the *Dana* three times, and the third time around, the topping-lift of the spanker boom broke and dropped the boom down upon the wheel, so that for a time the ship was without control, as she drifted by the *Dana* so close that the yard-arms just cleared. It was a moment of great anxiety until they drifted clear. So close were they that they could easily speak with one another.

The meeting of the ships occurred on the morning of 22 August 1874. Captain John Wilbur died in a foreign port two years later, and this was the brothers' last meeting on earth.

# *Early Great Lakes Steamboats*

## *Westward Ho! and Flush Times 1831-1837*

BY H. A. MUSHAM

THE first event of 1831 of importance to the shipping interests of Lake Ontario was the incorporation of the Ontario and St. Lawrence Steamboat Company by the New York legislature on 28 January. The company had been organized by Joseph Dennison and associates with a capital of $100,000. Its existence was limited to 1 May 1850; it was to be managed by a board of fifteen directors; and the stockholders were jointly and severally liable for its contracts. Its operations were limited to the lakes and the St. Lawrence, and Oswego was to be the place of business. *Ontario* and *Martha Ogden* were taken over, their owners being given an interest equal to the appraised values of the vessels. Both steamers went into service when the season opened, and the directors busied themselves with plans for the construction of a fine new large boat.

On the Canadian side, *Great Britain*, Captain Joseph Whitney, went into regular service on 1 May, between Kingston and Niagara with occasional stops at Oswego. She was, with the exception of *Frontenac*, the largest steamer built on the lakes to date. Her large size and fine accommodations elicited admiration from both sides, and the Canadians were particularly proud of her.[1]

Across the lake, *Charles Carroll*, 100 tons, was built at Sacketts Harbor, by Calvin Case for D. Griffith & Co., the owners of *Brownville*. She was 81.67 feet long, 14.5 feet wide, and had a depth of hold of 6.25 feet, and had a low pressure engine built by J. Dodd. Captain Case was her first master. She ran from Kingston to Rochester. In the summer of 1834, she was rebuilt at Sacketts Harbor. She was lengthened, and the engine was changed over to the high pressure type. She was renamed *America*, and

[1] J. Ross Robertson, *Roberston's Landmarks of Toronto. A Collection of Historical Sketches of the old Town of York from 1792 until 1833, and of Toronto from 1834 to 1895* (Toronto, 1896), II, 856.

went into service late in the season on the Ogdensburg-Lewiston route, with D. Howe as master.[2]

*Brownville* was raised after her burning in 1830, rebuilt and ran until 1834, along with *Charles Carroll*, when she too was lengthened at Sacketts Harbor, to 131 feet, and fitted with a low pressure condensing engine, by Avery of Syracuse. She was then renamed *William Avery*.[3]

Away to the west, *Argo*, $8^{7/95}$ tons, was launched at Detroit, the first steamboat built there. She took the place of *Olive Branch*, the old horse ferry that ran across the river to Windsor. She was a catamaran, the hull being formed of two large white wood dugouts joined together, decked over and fitted with a single sharp bow and a square stern. She was 42 feet long, 9 feet wide with a depth of hold of 2.5 feet. She was propelled by side-wheels turned by a little, high pressure engine that puffed out of all proportion to its power, and with a peculiar noise that could be heard for miles. She was built by Shadrach Jenkins, and was owned by John Burtis. She was very slow and at the mercy of the current most of the time. Occasional trips were made to Black River, at the head of the St. Clair River, on which it is said that as her fuel capacity was very small, the crew wooded up whenever she came to a rail fence. In 1832, she was taken over by Louis Davenport.[4] Another river boat, *General Gratiot*, 63 tons, was built at Black River,[5] and used on the St. Clair River for some years, after which she was broken up.[6] *Ohio*, 187 tons, a new boat, built at Sandusky and commanded by Captain W. Cahoon, replaced *William Peacock* on the Detroit-Buffalo run, and that vessel was put in service between Buffalo and Erie.

Communcation between Lakes Ontario and Erie by the Welland Canal had not proved entirely satisfactory. The canal was too small to pass even the smallest steamboats without dismantling them. Then also, navigation on the reaches of the Chippewa and Niagara Rivers was slow because of the difficulty sailing vessels had in beating upstream. The current, swift in reaches, also made it hazardous. To improve the service be-

[2] James Van Cleve, 'Reminiscences of Early Sailing Vessels and Steamboats on Lake Ontario,' Manuscript in Chicago Historical Society, p. 86. Captain Van Cleve's 'Reminiscences' have been extensively utilized in the preparation of three earlier articles in THE AMERICAN NEPTUNE: 'Early Great Lakes Steamboats—The *Ontario* and The *Frontenac*,' III (1943), 333-344, 'Early Great Lakes Steamboats—The *Walk-in-the-Water*,' V (1945), 27-42, and 'Early Great Lakes Steamboats—1816 to 1830,' VI (1946), 194-211. See also Franklin B. Hough, *History of St. Lawrence and Franklin Counties, New York* (Albany, 1853), p. 564, and John H. Morrison, *History of American Steam Navigation* (New York, 1903), p. 381.

[3] Hough, op. cit., p. 564.

[4] William L. Bancroft, 'Memoir of Captain Samuel Ward, with a Sketch of the Early Commerce of the Upper Lakes,' *Historical Collections, Pioneer and Historical Society*, XXI (1894), 358.

[5] Now Port Huron.

[6] *History of the Great Lakes, Illustrated* (Chicago: J. H. Beers, 1899), I, 612.

tween the two lakes, *Perseverance*, 60 tons, Captain Sam Vary, was put on the route between Buffalo and Port Robinson at the upper end of the canal.[7] This year the canal company decided to eliminate the upper river reaches by extending the canal due south from its upper end, across the the high level to Gravelly Bay on Lake Erie. The government of Upper Canada approved, and, as the company did not have the necessary funds for the project, loaned it $200,000. Work was started without delay and completed in 1833.

There were two accidents this year. In May, *William Peacock* was driven from her dock at Erie by a storm and went aground. The next month, *Sheldon Thompson* was damaged in a collision with the *Ohio*, near Ashtabula.[8]

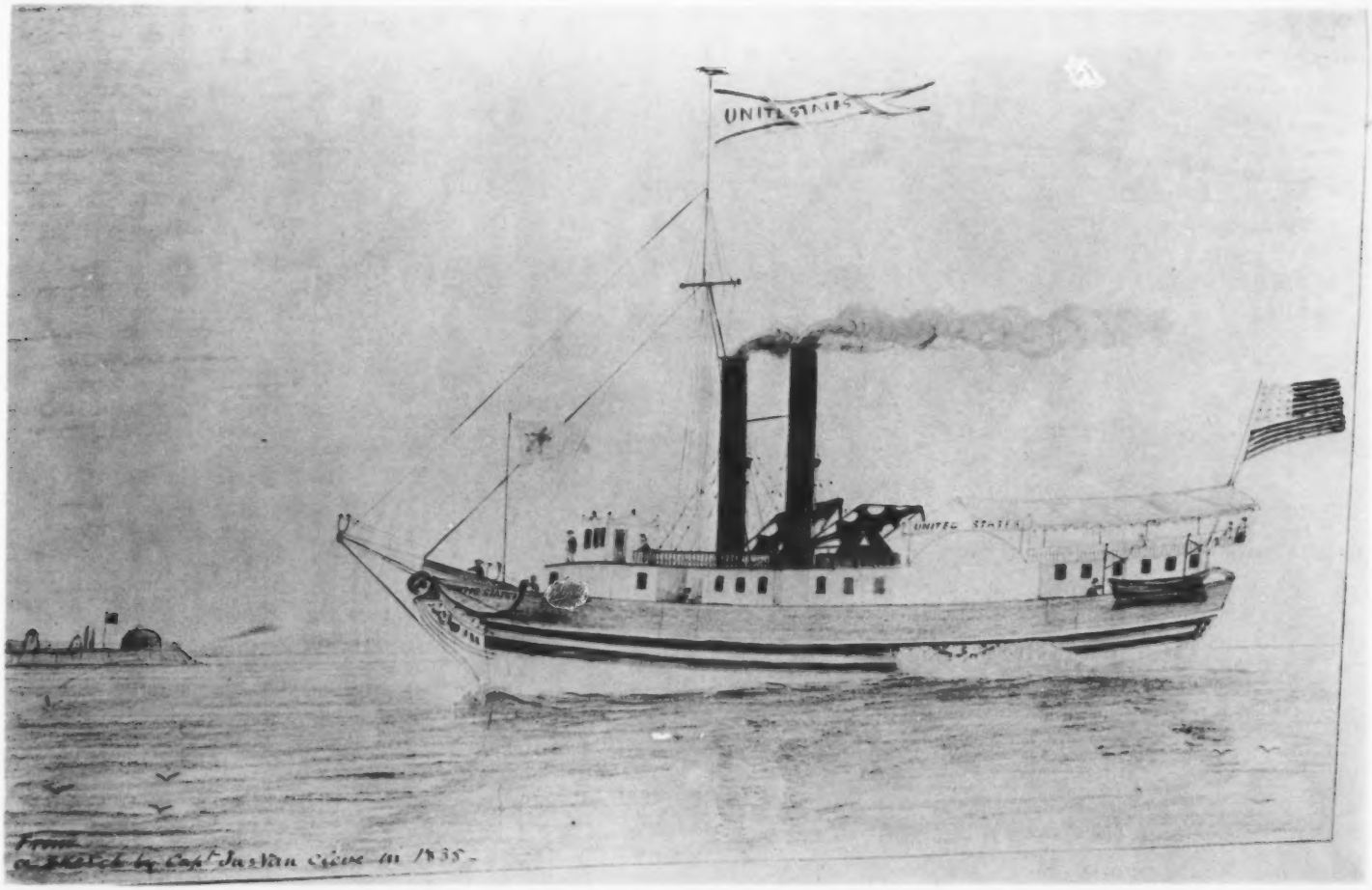
*United States* (Plate 5), the new boat of the Ontario and the St. Lawrence Steamboat Company, was launched at Ogdensburg, Thursday, 17 November. She was built on the site later occupied by the wharf of the Rome, Watertown & Ogdensburg Railroad, by William Capes, ship-carpenter of New York City, at a cost of $50,000. She so much resembled *Great Britain* that the thought arises that she was built from the same model, though on a smaller scale. Her dimensions and tonnage were:

| | |
|---|---|
| Length on deck | 150 feet |
| Length on keel | about 142 feet |
| Breadth of hull | 26 feet |
| Breadth over all | 55 feet |
| Depth of hold | 10 feet |
| Draft | 8 feet |
| Tonnage | 450 |

She had two low pressure engines with cylinders 40 inches in diameter, and an 8-foot stroke, built by William Avery of Syracuse. Each turned a side-wheel 18 feet in diameter with buckets 9 feet wide, and independently of the other. The wheels were enclosed by guards which ran from bow to stern. She had two boilers, one on each guard. She went into service on 4 July 1832, Captain Elias Trowbridge in command, on the Ogdensburg-Lewiston run with stops at way points. Her speed was from ten to twelve miles per hour. She carried no sails and burned 130 cords of wood one round trip.[9]

Cholera struck the lakes early in the summer of thirty-two. On 11 June an immigrant ship arrived at Quebec with many of its passengers stricken

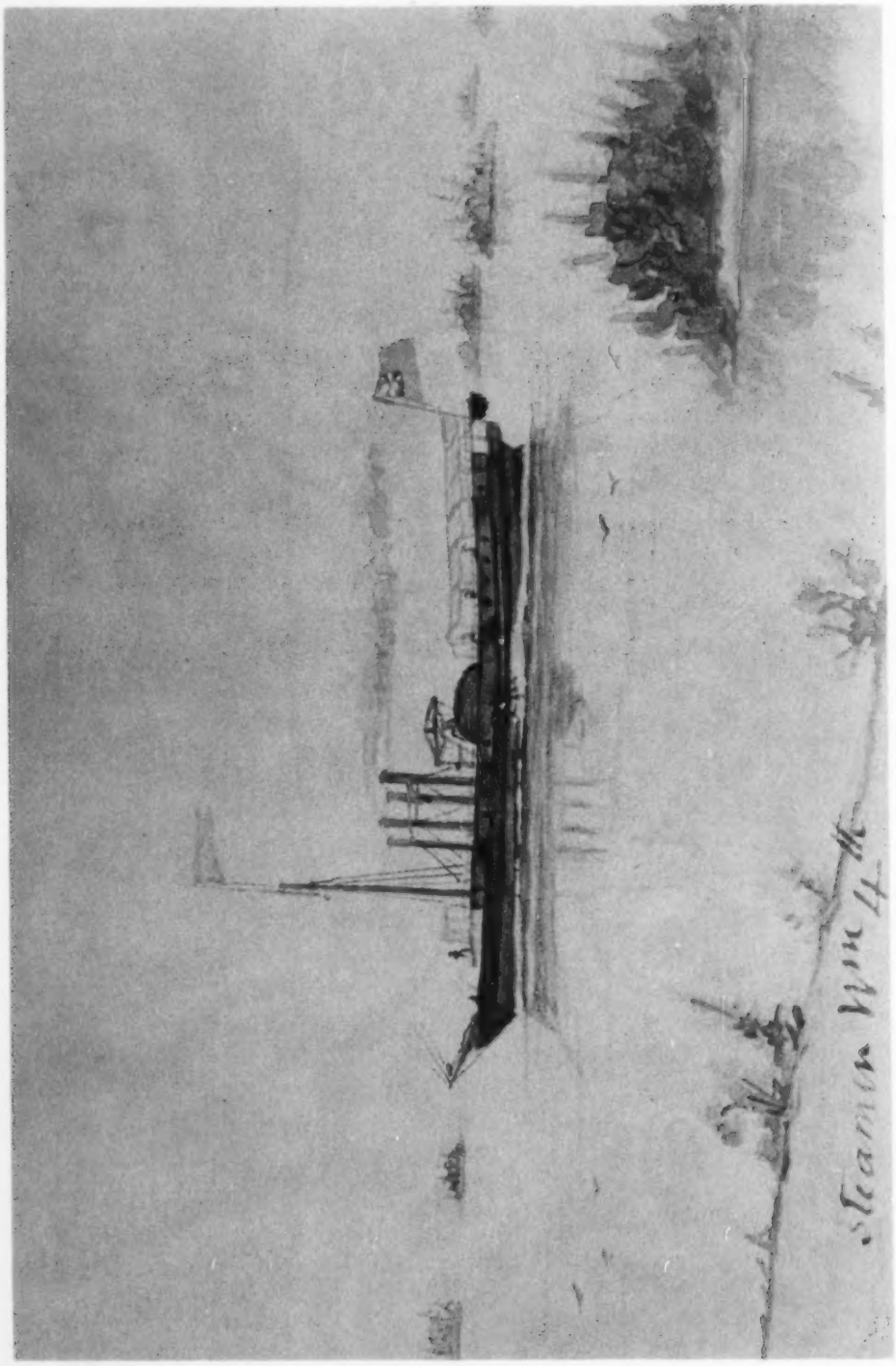
[7] Ibid., p. 611.
[8] Ibid., p. 612.
[9] Ibid., pp. 611-613. Van Cleve, op. cit., p. 87.




## Steamboat *United States* off Fort Niagara

Painted by Captain James Van Cleve from a sketch made by him in 1835. Reproduced by permission of the Chicago Historical Society. The hull was painted white with two black stripes and a gray water line. The deckhouse was white with green shutters. The bulwarks and rails on the top of the deckhouses were green. The sidewheels were red. The walking beams and the smoke pipes were black. The steam escape pipes were black with red tops. The stem and transom were ornamented with gold scrolls.

PLATE 6



Steamboat *William IV* in the Thousand Islands

Painted by Captain James Van Cleve. Reproduced by permission of the Chicago Historical Society. The hull was painted gray with black stripes. The pilot house and forward end of the deckhouse were white. The sides of the deckhouse were brown. The sidewheels were red. The walking beam was red and the smoke pipes were black.

with the disease. A large number had died on the way over and 34 more passed away soon after the survivors were put on shore. It was carried up the St. Lawrence and across Lake Ontario by them and other travellers. It then appeared at New York, spread up the Hudson to Albany, and westward along the Erie Canal to Buffalo. At this time, United States troops under the direction of Major General Scott were passing through Buffalo on their way to Chicago in what was then the far west, to assist in putting down the Blackhawk uprising in the Rock River country. Four steamers, *Henry Clay, Sheldon Thompson, William Penn,* and *Superior* were chartered to facilitate the movement. *Henry Clay,* Captain A. Walker, got away from Buffalo first about 1 July, carrying 208 men, Colonel Twiggs in command. Cholera broke en route to Detroit where she stopped for fuel, lying to at Hog Island.[10] *Sheldon Thompson* with 220 men and General Scott and staff passed her there on 5 July. Scott ordered Twiggs to proceed to Fort Gratiot, at the mouth of the St. Clair River and there pick up further instructions. *Henry Clay* reached the fort the next day with the troops in a state of panic. Twiggs, also stricken, ordered them ashore. As soon as they landed 156 deserted and scattered over the country. Of the rest of the command, 44 had died on the boat or at the fort, leaving only 8 available for duty. *Henry Clay* returned to Lake Erie, and lost 5 of its crew from the plague on the way.

Scott pushed on to Chicago in *Sheldon Thompson.* All went well until off the Manitou Islands in Lake Michigan. There at 4.00 P.M., 9 July, when but thirty hours out from Chicago, a sergeant died. His corpse was wrapped closely in his blanket, weighted and put overboard with little ceremony. Before Chicago was reached the next evening twelve others died and were also dropped into the lake. A considerable fleet of supply ships was anchored off the mouth of the river, there being no harbor there. The news that the steamboat had cholera on board spread quickly throughout the vessels and they hastily weighed anchor and stood out in the lake. During the night three more soldiers died on *Sheldon Thompson* and were put overboard early in the morning in fifteen feet of water. The water was so clear that their forms could be plainly seen from the deck. This morbid sight so unnerved some of the crew that Captain Walker had to up anchor and move the boat a half mile away to quiet them. The troops were landed and as at Fort Gratiot, a number deserted and scattered over the country, some dying where they fell. The sick were placed in Fort Dearborn, which was turned into a hospital. Within ten days 97 more died. The well were marched out into the country and put into camp near the Des Plaines River.

[10] Now Belle Isle.

Captain Walker and his crew, fearful of the disease, were anxious to get away from this new plague spot. Being short of wood he bought a log stable and a rail fence around a three-acre field. These the crew tore down, and cut the logs to size and put them on board. The supply was enough to take the vessel to Mackinac. She left on 15 July for Lake Erie.

*William Penn* reached Chicago with supplies and additional troops on 18 July; quickly discharged them; made a trip across the lake to the St. Joseph River for a load of flour which she carried to Chicago, and then departed for the east. *Superior* got no farther than Fort Gratiot where it unloaded its troops. She then returned to Buffalo and lost two of her crew on the way of the disease.[11]

None of these troops saw any service in the campaign, the uprising being put down by the militia, and regular troops moved up the Mississippi. Neither General Scott or any of his officers were stricken. In later years he attributed his and their escape to their not drinking water while on the boat. They took wine instead.

At this time there were two ways for the ordinary traveller to reach Chicago from the east. He could leave the steamboat at Detroit and take the occasional schooner or sloop passing up Lakes Huron and Michigan with supplies for the military posts and the fur traders, or he could take the stage there and cross overland on the Chicago road to Niles on the St. Joseph River. From there he could either follow the road for the rest of the way by whatever means were available, or he could take a small boat to the mouth of the river and there wait for one of the small sloops and schooners crossing the lake to Chicago. The trip around by the lakes was likely to require two or three weeks and be quite uncomfortable. While that by the road was also long it was much shorter, and there were many who preferred it to the long voyage, though the stage ride was rough indeed. Here was an opportunity to profit by the travel down the river part of the route and also by the movement of produce from the upper parts of the St. Joseph Valley to the lake. The first craft used on the St. Joseph River other than a canoe or fur trader's boat were small rafts, barges and keel-boats.[12] Taking them downstream was easy enough, but rowing and poling them up was another matter. The South Bend *Northwestern Pioneer* was sure that steamboats could use the river in its natural state, but believed that it would have to be improved before such naviga-

[11] John Wentworth, 'Early Chicago, Fort Dearborn,' *Fergus Historical Series*, II (Chicago, 1881), 72-74.

[12] The first craft, other than a canoe or fur trader's boat, was *Fairplay*, built in 1831, by Peter Johnson, carpenter of South Bend. He split a pirogue lengthwise, made it into a hull 40 feet long and 6 feet wide, and fitted the gunwales with running boards 1 foot wide, along the sides and ex-

tion could be efficiently and successfully prosecuted.[13] Nevertheless the attempt was made on the river as it was. *Newberryport*, 75 tons, built at Erie in 1829, was brought around to Newberryport[14] at the river mouth in 1833. Under command of Captain White she made a trip upstream reaching Berrien Springs where she grounded. She was released, brought back to Newberryport in a damaged condition and repaired. It is not recorded that she crossed the lake to Chicago this year, but she did so in later years as she was wrecked near there in 1836. The exact date of her arrival at St. Joseph is not known, but it is stated that it was in the first part of 1832. She therefore was the first steamboat to reach the head of Lake Michigan and may have been the first to visit Chicago,[15] instead of *Henry Clay*, usually given that credit.

Canadian steamers built this year were *Constitution, Iroquois, John By,* and *William IV*, all on Lake Ontario. *Constitution*, 350 tons, was built at Oakville by Messrs. Chisholm and Company. Captain Leland was her first commander, and she plied between York and Niagara.[16]

*Iroquois* was a small stern-wheel, scow model steamer of 100 tons, built at Prescott and intended to run up the Long Sault Rapids of the St. Lawrence between Prescott and Dickinson's Landing. On trial it was found she could not do it. She was a sad failure and was soon put aside.[17]

*John By*, also a 100-ton stern-wheeler, was built at Prescott and named after John By, chief engineer of the Rideau Canal during its construction. She was owned by David John Smith of Kingston, and Captain Kerr was her master. The first stern-wheel installed was too large for the engine and was replaced by a smaller one. This too proved to be unsatisfactory. She was then run on the open lake between Hamilton and York.[18] A traveller who made a trip to Hamilton in July 1833, reported her as: 'the worst sailing and ill constructed boat built in Canada. The engine

tending outboard, and with cleats nailed on crosswise. His boatyard was located at the foot of Washington Street in South Bend. He captained it down to St. Joseph on its first trip, with a crew of four men. In 1832, he built *Antelope*, a keel boat 80 feet long, upside down in front of his shop, 1,000 feet from the river, turned it over with the aid of the settlers, and with them pulled it to the bank and put it into the water. He also built *Comet*, similar to *Antelope* the same year, but close to the edge of the river. Another keel-boat, built by Lyman G. Barnard at Niles the same year, with a capacity of fifteen tons, was rigged with a mast and sails and made several trips across the lake to Chicago.

[13] Otto Knoblock, 'Early Navigation on the St. Joseph River,' *Indiana Historical Society Publications*, VIII (1925), 187-193.

[14] Newberryport was a pioneer name for the settlement at the mouth of the St. Joseph River on the north bank, now Benton Harbor.

[15] Knoblock, op. cit., pp. 194-196. *History of the Great Lakes, Illustrated*, I, 610, 865.

[16] Van Cleve, op. cit., p. 59.

[17] Van Cleve, op. cit., p. 58. Robertson, op. cit., p. 857.

[18] Van Cleve, op. cit., p. 58.

was high pressure and if a vessel was to be built for roasting passengers, the *John By* might have furnished useful hints.'[19] She was not a success and came to her end by being wrecked at Port Credit later in that year.[20]

*William IV* (Plate 6), 450 tons, was built at Gananoque by McDonnell and others. Her model was of the usual steamboat type but her appearance was distinctive and she was easily recognized at long distances as she had four tall smoke stacks, placed athwartships in pairs. She had a low pressure engine of 100 horse power built by Bennet and Henderson of Montreal. She came out under Captain Charles Paynter and ran for some years between Prescott and Toronto. She carried large numbers of immigrants westward, on one trip carrying one thousand passengers. Other masters were Captains McDonald, Jones, Cowan and Hilliard. She was somewhat crank, and to correct this condition false sides were built on to the hull along the water line.[21]

This year *Alciope* was reconditioned and renamed *United Kingdom*. The low pressure engine was replaced by two of high pressure built in Pittsburgh. All this was done by her owner Robert Hamilton, so that his boat would make as much speed and have as great a name as *Great Britain*, owned by his brother John. The cost was disastrous to him as the results expected did not materialize, particularly as to speed.[22]

Two new steamers went into service on Lake Erie and one on the Detroit River this season; *Pennsylvania*, 395 tons, *Uncle Sam*, 280 tons, and *General Brady*, 100 tons. The first named was built by Colonel Charles M. Reed, and was one of the largest steamboats built on Lake Erie to date. *Uncle Sam* was built on Grosse Isle in the Detroit River and ran until 1844, when it was made into a sailing vessel. *General Brady*, built at Detroit, ran on the Detroit River, and like *Uncle Sam* was made into a sailing vessel in 1844. A real safeguard to navigation, the first light-ship on the lakes, *Lewis McLean* was built at Detroit this year and placed in position off Waugoshance Sands in Lake Michigan near the Straits of Mackinac.[23]

*Martha Ogden* came to her end on 12 November after seven years of service while under command of Captain William Vaughn. She sprang a leak while on the way from Oswego to Sacketts Harbor and made water rapidly. This soon put out the fires. The sails were spread and she continued on her course. While trying to double Stoney Point, the wind,

[19] Patrick Shirreff, *A Tour through North America*, p. 144.
[20] Robertson, op. cit., p. 857.
[21] Van Cleve, op. cit., p. 57. Robertson, op. cit., pp. 857, 875.
[22] Van Cleve, op. cit., p. 55.
[23] *History of the Great Lakes, Illustrated*, I, 613-614.

which had been from the southwest early in the afternoon, veered to the west northwest, then to the northwest, and finally to the north. Unable to make headway against this wind, Captain Vaughn at 4.00 P.M. dropped both anchors in eight and a half fathoms of water. They held fast until 11.00 P.M., and then parted. The wind drove her shoreward and she struck and was bilged in ten feet of water in Nutting's Bay. One of the crew, after much peril, succeeded in reaching the shore eight rods away. He aroused the people thereabouts and built fires. In the morning a line was passed ashore and made fast, and all on board were safely drawn over it to leave the ship which went to pieces during the day. She was a total loss.[24]

In 1833, eighteen steamers were built, fifteen on the lower lakes and three on the upper.[25] The most outstanding of these was *Michigan*, built at Detroit by Oliver Newberry, merchant and shipping man of that city, for the upper lakes trade. She was the second steamer built at Detroit and was launched on 27 April. In general her model followed that of *United States* on Lake Ontario. Her dimensions and tonnage were:

| | |
|---|---|
| Length on deck | 156 feet |
| Breadth of hull | 29 feet |
| Breadth extreme | 53 feet |
| Depth of hold | 11 feet |
| Tonnage | 472 |

She was schooner-rigged with three masts, but, unlike *United States*, carried sails. The machinery arrangement was the same but the two boilers were placed in the hull instead of on the guards. She had two smoke stacks. The cylinders of the two low pressure engines were 40 inches in diameter and had an 88-inch stroke. The gentlemen's dining room was in the hold and contained 30 berths abaft the engines. There were 6 staterooms forward with 3 berths in each. The intermediate space between the engines formed a part of the dining room and was richly panelled and gilded. The ladies' cabin on the main deck contained 16 berths and was elegantly furnished. In the forward cabin on that deck were 44 more berths. In all she could berth 108 passengers. It took about six months to outfit her to the satisfaction of her owner. Her first trip was made under Captain Chesly Blake, Newberry's master mariner.[26]

Steamboat service on the St. Joseph part of the overland route to Chi-

[24] Hough, op. cit., p. 654.

[25] Lakes Ontario and Erie were referred to as the Lower Lakes in those early days, and Huron and Michigan and Superior as the Upper Lakes.

[26] *History of the Great Lakes, Illustrated*, I, 397-398.

cago was resumed this year by the placing in service of *Matilda Barney*, a flat-bottomed stern-wheeler built at St. Joseph by Joseph Fisbay. The engine was built by B. P. Andrews. The first trip up river to South Bend was made early in the summer, with David Wilson as captain and Leverett Plum as engineer. There *Matilda Barney* was given a hearty welcome, the passengers and crew adjourning to the Michigan Hotel for a celebration and a dinner set for one hundred persons.[27]

Competition for business now was keen especially on the upper lakes. To control it, and assure some regularity of service, several steamboat-owners joined in an association and consolidated their interests. Rates were fixed and returns of all earnings were made to one office. The accounts were settled at the end of the year.[28]

This season seven new steamers came out on Lake Ontario, two American and six Canadian. *Blackhawk*, 200 tons, the larger of the two American, was built at French Creek for William Baker and Company. She was 106 feet long, 18 feet wide, and had a depth of hold of 7 feet. She was later sold to some Canadians, renamed *Dolphin*, and used principally on the St. Lawrence River.[29]

Of the new Canadian boats, *Cobourg* and *Brockville* were of more than passing interest. The first-named, of 500 tons, was built at Cobourg and was the third largest boat built on the lake to date, being exceeded in tonnage by only *Frontenac* and *Great Britain*, She had two 50 horse power, low pressure engines. Her owners were Charles and James McIntosh, brothers, both of whom died on board of her of cholera in 1834. She ran from Prescott to the head of the lake and for some years under command of Captain Leland.[30]

*Brockville*, 380 tons, was launched at Brockville at noon, Wednesday, 4 September. The *Brockville Recorder* reported that *Great Britain* and *William IV* are expected to be in port at that hour, adding that; 'she will probably be the fastest and best finished vessel in Canadian waters.' The builders were Shay and Merritt of Montreal, the engines being supplied by Avery of Syracuse. She was 145 feet long and 32.5 feet wide. Her main cabin was 84 feet long. Her first trip was made on 1 April, between Brockville and the Long Sault Rapids, with Captain L. Hilliard in command.[31]

*Britannia*, 200 tons, was owned by McPherson and Company and was built at Kingston, early in the year. She was taken down the St. Lawrence

27 Knoblock, op. cit., pp. 194-195.
28 *History of the Great Lakes, Illustrated*, I, 443.
29 Van Cleve, op. cit., p. 86. Morrison, op. cit., p. 381.
30 Van Cleve, op. cit., p. 57. Morrison, op. cit., p. 858.
31 Van Cleve, op. cit., p. 59. Robertson, op. cit., p. 858.

in May, and put into regular service between Montreal and Laprairie under Captain Luckin. She ran in conjunction with the lines between Quebec and Upper Canada and the United States.[32]

A third steamer named after the place of her construction was *Kingston,* of 200 tons. She was built by J. C. Parker, a well-known citizen of that place. She ran between Hamilton and Toronto, with Captain Ives in command, and for a time ran on the Bay of Quinte, under Captain Grass. She was not much of a success.[33] The trend was toward larger boats, and she was too small to compete successfully with them.

The rage for steamboats was now fully on, and they were built even where there was not enough water to float them. One *Jack Downing,* 80 tons, the other American steamer of the year, was built by P. Boynton at Carthage, New York, and drawn on wheels to Sacketts Harbor. There she was launched and fitted up for service as a ferry at Ogdensburg, where she operated for a time. She was also used at Waddington and between Fort Covington and Cornwall.

Up to this year only a few improvements had been made in the harbors other than piers extending into the lake, or cutting shallow channels through the bars that blocked the mouths of the small rivers at which ports were located, and these all on the lower lakes and mainly by local interests. Beyond Detroit navigation was a precarious matter, there being no safe harbors on either Lake Huron or Michigan. The Black Hawk War impressed upon the federal government the need for them, particularly at Chicago. The river there was a narrow, deep, sluggish stream—more of a bayou than a river. Access to it by lake craft was blocked by a sand spit and a bar across the mouth on which there was only one or two feet of water. It required nothing more than cutting a channel through the spit to deep water and protecting it by breakwaters to make it practicable as a harbor. Chicago, lusty infant that it was, made itself heard, and with the support of the State of Illinois and the shipping interests, the Congress on 2 March 1833, was induced to appropriate $25,000 for the purpose. Work was started on the channel three months later and carried on through the open season.

To insure peace in the prairie country the federal government made its arrangements to purchase the remaining Indian lands in Illinois. Accordingly its commissioners met the owners, the Indians of the Pottawotomie, Ottawa, Chippewa and Kickapoo tribes living around the head of Lake Michigan at Chicago in September 1833. In return for payment of

[32] Van Cleve, op. cit., p. 59. Robertson, op. cit., pp. 857-858.
[33] Van Cleve, op. cit., p. 59. Robertson, op. cit., p. 858.

certain claims against them, certain sums of money, a large gift of goods, and the allotment of a large tract of land in Kansas, the Indians ceded their lands between Lake Michigan and the Rock River to the federal government. Some 6,000 Indians came in for the event. A horde of land speculators, agents and promoters of land companies and the curious came in, overland and by lake. At the conclusion of the council the Indians and the horde departed. But a few remained and the citizenry of the settlement which numbered twenty-nine in 1829 now could be counted at 350. Those that had left took with them, as did the soldiers of the Black Hawk War, lively descriptions of the rich prairie lands around the head of the lake soon to be purchased for $1.25 an acre. The news was soon carried all over the east and to the islands across the North Atlantic.

There were but two serious accidents to the steamboats this year. *William IV* broke one of the tiller ropes running from the helm to the pilot house while passing through the canal entrance to the harbor of Hamilton, and narrowly escaped destruction.[34] On Tuesday 1 October, the new *George Washington*, 609 tons, the largest steamer on Lake Erie and recently built at Huron for Colonel Reed, was wrecked near Long Point, during a gale while on her third trip. The engines became unmanageable and she was run on shore for the safety of the passengers, and there broke in two, twenty rods from the water's edge. All on board were saved. No insurance was carried and the loss was about $60,000.[35]

Other new steamboats in 1833 and not referred to were the:

| | | | |
|---|---|---|---|
| *Daniel Webster,* | 358 tons, | American | built at Black Rock |
| *Delaware,* | 170 tons, | American | built at Huron |
| *General Porter,* | 342 tons, | American | built at Black Rock |
| *Governor Marcy,* | 161 tons, | American | built at Black Rock |
| *North America,* | 362 tons, | American | built at Conneaut |
| *Detroit,* | 240 tons, | American | built at Toledo |
| *Oswego,* | 400 tons, | American | built at Oswego |
| *Lady of the Lake,* | | American | built at Mt. Clemens |
| *Oliver Newberry,* | 170 tons, | American | built at Palmer |

The first event of importance in 1834 was the opening of the channel through the sand spit blocking the mouth of the Chicago River. In February a sudden thaw sent a torrent of water down the river. The old mouth having been blocked off, the water poured through the unfinished channel, scoured out the sand in it and carried it out into the lake.

[34] Shirreff, op. cit., p. 118.

[35] *Niles Weekly Register,* XVI (19 October 1833).

Work was resumed on the protecting piers and when the season opened, Chicago had a harbor of a sort. The first vessel to enter was *Michigan* from Detroit on a thirteen-day excursion tour, during which she visited Green Bay and points of interest on both shores of the lake. She arrived off Chicago early in June, passed into the channel, and went up the river as far as the bridge at Dearborn Street, the populace lining the banks and cheering her as she passed.[36] Chicago was now the safe head of navigation on the lake.

Business was now looking up across the lake, as the *Chicago Democrat* for 4 June 1834 carried the notice that:

> The steamboat, *Matilda Barney*, Captain Smith, is now plying regularly between St. Joseph and Niles. Passengers for the East will find it for their advantage to take this route, thereby avoiding the bad roads between Chicago and St. Joseph, making only 175 miles between Chicago and Detroit.

This year a rival to *Matilda Barney* appeared, another small craft, *David Crockett*. She was built at Erie by Captain J. F. Wight especially for service on the river. On her the *Erie Observer* reported:

> she is light built and draft, long and lank, as a farmer would say, and has her paddles at the stern. We took a short ride in her yesterday, when she well sustained her motto of 'go-ahead,' she did not exactly 'walk the waters, like a thing of life,' but glided over them as 'smoothly as a new set knife.' She is designed to ply on the St. Joseph's River for which region she will soon take departure; and where if she does not 'astonish the natives,' she will at least add much to their business facilities.

She ran in competition with *Matilda Barney* carrying passengers and freight, and towing barges at cut rate. She was lost at St. Joseph in 1836.[37]

The sloops and schooners referred to previously were not to have the crossing of the lake to themselves. The Steamboat Association placed *Pioneer* on the route. She reached Chicago on the evening of Tuesday, 3 June, and ran regularly across the lake until Wednesday, 9 July, when she was wrecked at the mouth of the St. Joseph River. She was lying at anchor and had just taken her passengers aboard preparatory to starting for Chicago when a very severe windstorm arose and threw her on the bar across the mouth of the river. There were twenty souls on board, all of whom were saved by the gallant efforts of Captain Dingley in the schooner *Marengo*, one of the Newberry fleet, to whom they expressed their grat-

[36] A. T. Andreas, *History of Chicago, from the earliest period to the present time* (Chicago, 1884), I, 241.

[37] Knoblock, op. cit., p. 196.

itude in a card printed in the *Chicago Democrat*.[38] She was the first steamboat lost on Lake Michigan.

Eighteen new steamers came out this season, five on Lake Ontario, eleven on Erie, one on Huron, and one on Michigan.

There was little that was noteworthy about the new steamers on Lake Erie. In general they followed the models that had just about become standard. The old *Superior* which had had little luck since its service as a troop-ship in the cholera year of 1832, ended its career as a steamboat. The engine was removed and she was fitted out as a full-rigged ship, the old name being retained.

*Oswego*, 400 tons, built by William Young, ship-carpenter, for C. J. Birckle of that place and others and launched the previous November, was the first new American vessel to come out on Lake Ontario this season. She was 143 feet long, 20 feet wide, had a depth of hold of 7 feet, 8 inches, and had two horizontal engines built by William Avery of Syracuse. She went out on her first trip in May, under Captain Macy from New York, and was driven ashore in a blinding snowstorm three to four miles west of Oswego. She was released, repaired and returned to service with Captain W. W. Sherman, Macy having returned to New York in disgust.[39] Another steamer that appeared on the lakes this year was the little *Caroline*, 45 $^{95}/_{100}$ tons, which had quite a career, and later came to her end in 1837 in a most spectacular manner.[40]

Of the six Canadian boats built this year one, *Minnesetung*, 175 tons, built at Goderich, was the first steamboat launched on Lake Huron. *St. George*, 350 tons, was built at Kingston. She had a 90 horse power engine. Her owners claimed there were none to surpass, if any to equal her as a sea boat.[41] *Rapid*, known as the cigar boat, was built at Prescott, by Sanford of New York according to the ideas of Henry Burden, inventor. She was a catamaran, formed by fastening two cylinders together with a deck. She carried two 30 horse power engines which turned a paddle-wheel placed between them amidships. The cylinders were 177 feet long, by 9 feet in diameter, and strongly hooped. Fitted out and loaded her draft was not more than 24 inches. It was expected she would descend and ascend the Long Sault Rapids of the St. Lawrence. She went down all right, but like the others built to do the same thing could not make her way up. She was a sad failure and was soon put aside.[42]

[38] *Chicago Democrat*, 16 July 1834.
[39] Van Cleve, op. cit., p. 91.
[40] Morrison, op. cit., p. 369. Van Cleve, op. cit., pp. 85-86.
[41] Robertson, op. cit., p. 859.
[42] *Niles Weekly Register*, XLVI (26 July 1834). Van Cleve, op. cit., p. 58.

*Oakville,* 150 tons, was owned by Colonel Chisholm of that place. Her name was changed shortly afterward to *Hamilton,* and then to *Union.* Her engines came out of *Rapid.*[43] She commenced running daily, Sundays excepted, between Toronto and Hamilton on 7 August. She was described as a very handsome boat and as being elegantly fitted up. Her captain was James Mills.[44] She ended her career as a bark.

Thirty steamboats plied on Lake Erie this year. Others ran in connection with them on the Detroit River, and on Lakes Huron and Michigan.[45] The Steamboat Association consisted of eighteen steamers, valued at $600,000. To take care of the business on Lake Michigan it arranged for a steamer to visit Chicago every week. Business done above Detroit amounted to $201,838, of which $12,000 to $14,000 was paid by the federal government for moving troops and supplies.[46] But all was not well this year. There was a drop in the general prosperity induced by the easy money of Andrew Jackson's time, an ominous sign of harder times to come shortly. But business was good for the steamboats, especially on Lake Ontario. Large passenger loads were common. *United States* put in at the Genesse early in May, carrying 1,000 passengers.[47]

Only two accidents are reported to have taken place this season. *New York* was damaged near Erie in July, by the bursting of her steam pipes. In August, the machinery of *Daniel Webster* gave way causing some damage. There were two losses, those of *Pioneer* on Lake Michigan, and of *Kingston* sunk in December on Lake Ontario.

This year the town of York was incorporated as the city of Toronto. Toronto[48] is the old Indian name for the locality.

Other steamboats built in 1834 and not mentioned heretofore were:

| | | | |
|---|---|---|---|
| *Commodore Perry,* | 352 tons, | American, | built at Perrysburg |
| *Mazeppa,* | 312 tons, | American, | built at Buffalo |
| *Little Western,* | 60 tons, | American, | built at |
| *Sandusky,* | 277 tons, | American, | built at Sandusky |
| *Thomas Jefferson,* | 428 tons, | American, | built at Erie |
| *Victory,* | 77 tons, | American, | built at Buffalo |
| *New York,* | 325 tons, | American, | built at Black Rock |
| *Commodore Barrie,* | 275 tons, | Canadian, | built at Kingston |

[43] Van Cleve, op. cit., p. 59.
[44] Roberston, op. cit., p. 859.
[45] *Niles Weekly Register,* XLVI (10 May 1834).
[46] Ibid.
[47] *History of the Great Lakes, Illustrated,* I, 448, 619.
[48] To-ron-to is said to mean the place of trees.

Engaged in the commerce of Lake Erie and the upper lakes were:[49]

| | | |
|---|---|---|
| 31 steamboats, | American, | 11,662 tons |
| 334 schooners, | American, | 22,015 tons |
| 3 brigs, | American, | 645 tons |
| 3 steamboats, | Canadian, | |
| 25 schooners, | Canadian, | |

Ten new steamers came out in 1835. Five were built on Lake Erie, one on Lake Michigan and one at Chatham on the Thames. Three were built on Lake Ontario, one American and two Canadian. All were of the usual models, except *Robert Fulton*, 368 tons, launched at Cleveland. She is described is being built on a new plan with a round stern instead of one of the usual square type. She had a high pressure engine of 118 horsepower and could carry 1,200 barrels of freight in the hold. Though built almost expressly for a freight boat she was capable of carrying a goodly number of passengers. Her owners were the Troy & Erie and United States Lines.[50] Another, *Traveller*, 350 tons, Canadian, was a fabricated job. The parts were formed in Scotland and assembled at Niagara by the Niagara Dock Company under superintendence of Robert Gilkison. She was 145 feet long, 23.5 feet wide and had a depth of hold of 11 feet. She could make eleven to thirteen miles per hour, and was considered to be the fastest boat on the lake. She was owned by John Hamilton and cost £8,000. Captain James Sutherland was her master, and she ran between Toronto, Cobourg and Rochester.[51]

*Great Britain* went into service this season with accommodations enlarged to take care of 1,000 passengers. This made her the equal of *United States* in passenger capacity. These two boats had established themselves as favorites with the travelling public and ran in connection with one another, the former between Prescott, Toronto and Niagara along the north shore and the latter from Ogdensburg along the south. Captain D. J. Van de Water, from the Hudson, commanded *United States* in 1833 and 1834, with Joel F. Taylor as his sailing master. His place was taken over by Captain Van Cleve in 1835, who needed no such assistant because of his long experience on the lake and the St. Lawrence. His mate was R. S. Robertson.[52]

This year *Canada* came out under a commander other than Captain Richardson, her principal owner, though he remained her manager.

[49] *Niles Weekly Register*, XLVII (15 February 1835).

[50] *Chicago Democrat*, 21 October 1835.

[51] Van Cleve, op. cit., p. 63. Robertson, op. cit., p. 860. Augusta Grant Gilkison, 'Early Ship Building at Niagara,' *Niagara Historical Society*, No. 18.

[52] Van Cleve, op. cit., p. 87.

Captain Frank Bury took her over. Richardson and his associates had bought *Constitution,* renamed her *Transit* and ran her from Hamilton to Toronto, Port Hope, Cobourg, and Dorchester.[53]

Out in the far West, the Indians of the country around the head of Lake Michigan assembled on the north bank of the Chicago River at the start of the trail to Green Bay[54] on 18 August, according to the treaty made with them two years before, and staged their last dance on their tribal lands. They then left for their new home across the Mississippi River. The prairies were now safe for settlers, and to them the restless turned their steps all eager to get rich.[55] The steamboats and sailing craft were ready to carry them and their effects to the new west.

Local service around the head of Lake Michigan was improved this year by the addition of *Chicago,* 166 tons, built at St. Joseph by James Averill, shipwright from Maine. At Buffalo, *Charles Townsend,* 312 tons, was launched early in November. She was built by Carrick and Bidwell for Townsend, Coit and Company. Her engine was that of the old *Superior,* which had also done duty in *Walk-in-the-Water.* Shortly after launching she was seriously damaged by a severe storm on 11 November, which drove her onto the bank of Buffalo Creek. Other steamers built in 1835, and not mentioned heretofore were:

| | | | |
|---|---|---|---|
| *Columbus,* | 391 tons, | American, | built at Huron |
| *W. F. P. Taylor,* | 95 tons, | American, | built at Silver Creek |
| *United States,* | 312 tons, | American, | built at Huron |
| *Susquehannah,* | | American, | built at Oswego |
| *Hamilton,* | 300 tons, | Canadian, | built at Hamilton |
| *Thames,* | 160 tons, | Canadian, | built at Chatham |

Disasters and losses other than those mentioned and recorded this year were:

*Daniel Webster,* damaged by fire at Buffalo in January; loss $8,000. Owned by Pratt, Taylor & Company.

*General Porter,* sunk at Black Rock.

*Great Britain,* driven ashore near Toronto, in a storm in April.

*William Peacock,* ashore during a severe gale, near Buffalo, in June.

*Commodore Perry,* disabled by explosion of steam pipes, near Buffalo in June. Again disabled by bursting of boiler near Detroit, in September; five lives lost. Towed in by *Daniel Webster.*

*Michigan,* ashore at the mouth of the Detroit River in September, released.

*Columbus,* ashore near Erie, in November.

*Daniel Webster,* damaged by collision with piers at Grand River.

[53] Roberston, op. cit., pp. 857, 860.

[54] Now the foot of N. Rush Street.

[55] A United States land office was opened at Chicago, 28 May 1835.

Money was very easy in 1836. The national debt had been paid off leaving a surplus of $37,000,000 in the United States Treasury. This was being distributed among the states. The year was prosperous. There was plenty of fine rich land in the new West, low in price and easily reached by river, canal and lake, which had been well advertised by a flood of pamphlets and books in the East and overseas in Britain. A new westward movement set in and practically depopulated parts of New England. Overseas, the harvests had been poor in Britain and Ireland and the times were hard. Immigration, which had declined about a third, now just about doubled. Many came by way of the St. Lawrence and Lake Ontario to Oswego and passed up the Oswego and Erie Canals. Others went up the lake to the Niagara River, and overland to the same place—all headed for Buffalo. Some went on by stage or wagon but most of them took steamboat, schooner, brig or bark there, for the long trip to the West. Along with them went mechanics, merchants, lawyers, land jobbers and sharpers of all kinds, hoping to profit not only from the sales of farm and timber lands, but from the promotion and settlement of towns and villages as well.[56]

This was fine for the steamboat business. The upper lake trade boomed. In May there were twenty arrivals at Chicago crowded with passengers and deep with freight. *United States*, of moderate size, stopped at Milwaukee during the month en route to Chicago with seven hundred passengers on board. *Michigan*, it is stated, took in $14,226.00 on a round trip from Buffalo to Chicago. It was estimated that the capital invested in steamboats in Buffalo amounted to $1,000,000. Their average cost of operation including wages for crew, food, fuel and ordinary contingencies ran from $100 to $150 a day, but business was so good that their owners were reported as having earned seventy to eighty per cent.

[56] The great demand for the new lands and the easy money brought on the great land boom of 1836-1837. Chicago became the center for this wild speculation and rose from a frontier village of a few houses to a city of several thousand people in three years' time. Said Governor Thomas Ford of Illinois: 'The story of the sudden fortunes made there excited at first wonder and amazement, next a gambling spirit of adventure, and lastly an all-absorbing desire for sudden and splendid wealth. Chicago had been for some time only one great town market. The plats of towns for a hundred miles around were taken there to be disposed of at auction. The eastern people caught the mania, and every vessel coming west was loaded with them, their money and means, bound for Chicago, the great fairyland of fortunes. But as enough did not come to satisfy the insatiable greed of the Chicago sharpers and speculators, they frequently consigned their wares to eastern markets. Thus a vessel would be freighted with land and town lots for the New York and Boston markets at less cost than a barrel of flour. In fact, lands and town lots were the staple of the country, and were the only articles of export . . . . Speculation was the order of the day and every possible means was hastily and greedily adapted to give an artificial value to property . . . . No scheme was so extravagant as not to appear plausible to some.' [*A History of Illinois* (Chicago, 1854), pp. 279-280.]

The example of Chicago was contagious. It spread to all the towns and villages, not only of Illinois, but to neighboring states and those along the lakes to the east as well. No creek flowing into

on their investments.[57] A round trip Buffalo to Chicago took twenty days and more, depending upon the boats and the number and length of the stops en route. The fast boats made from ten to twelve miles per hour.[58] Wages for the crews of upper lake boats were:[59]

| | | | |
|---|---|---|---|
| Captain | $600.00 to | $1,000.00 | per season |
| First mate | 36.00 to | 40.00 | per month |
| Second mate | 18.00 to | 28.00 | per month |
| Steward | 25.00 to | 35.00 | per month |
| Engineer | 50.00 to | 90.00 | per month |
| Wheelsman | 15.00 to | 20.00 | per month |
| Fireman | 18.00 | | per month |
| Sailors | 16.00 | | per month |
| First cook | 25.00 | | per month |
| Second cook | 18.00 | | per month |
| Third cook | 10.00 | | per month |
| Other hands | 10.00 to | 15.00 | per month |

Rates for freight from Buffalo to Detroit by steamboat were $0.38 per hundred weight for heavy goods, and $0.50 for light. On down freights from Detroit, Cleveland and all ports on Lake Erie, they were:[60]

| | | | |
|---|---|---|---|
| Flour | $0.25 per barrel. | Buffalo charge, | $0.05 per barrel |
| Grains | 0.08 per bushel. | Buffalo charge, | 0.02 per bushel |
| Beef, pork, ashes, whiskey | 0.10 per 100 lbs. | Buffalo charge, | 0.03 per hundred |
| Skins, furs | 0.25 per 100 lbs. | Buffalo charge, | 0.06 per hundred |
| Staves from Cleveland | 5.00 per 1000 lbs. | Buffalo charge, | 1.25 per hundred |
| Staves from Detroit | 6.00 per 1000 lbs. | Buffalo charge, | 1.25 per hundred |

Passenger rates for the steamboats were:

| | | |
|---|---|---|
| Buffalo to Cleveland | Cabin passage, | $ 6.00 |
| Buffalo to Detroit | Cabin passage, | 8.00 |
| Buffalo to Detroit, | Deck passage, | 3.00 |
| Buffalo to Mackinac | Cabin passage, | 12.00 |
| Buffalo to the Sault | Cabin passage, | 12.00 |
| Buffalo to Green Bay | | 20.00 |
| Buffalo to St. Joseph | | 20.00 |
| Buffalo to Chicago | | 20.00 |

any of them was too puny not to have an imposing port platted at its mouth, on paper, on sale to the gullible. (A. T. Andreas, *History of Chicago*, three volumes, Vol. I, p. 135.)

[57] *History of the Great Lakes, Illustrated*, I, 186, 187, 400. *Chicago Democrat*, 6 July 1836.

[58] *Chicago Democrat*, 6 July 1836.

[59] *History of the Great Lakes, Illustrated*, I, 185.

[60] Ibid., p. 186.

The type of service offered was high according to the passengers in *Columbus* on a trip from Buffalo to Chicago. They felt it

> a pleasure and a duty to express their high consideration of the urbanity and seamanship of Captain Walker, and of the power of the splendid steamer he commands. For model and speed, we believe the *Columbus* to be unrivalled by any other vessel upon the lakes. Her accomodations are ample, her larder well stored, even with luxuries, and her table served with a promptitude deserving praise. Captain Walker's efforts to render his passengers (of every class) comfortable and happy have been unwearied, and we would take this means to express our gratitude, to wish him success, and to assure the travelling community that the *Columbus* is worthy of large patronage.[61]

*Columbus* was a new boat built at Huron the previous year by Wickham, Walker & Company. It more than earned its cost of $37,000 this season.[62]

On Lake Ontario, *Great Britain* and *United States* coördinated their services; the first from Prescott and along the north shore to Toronto, and across to Niagara, the second from Ogdensburg along the south shore to Lewiston. *Dolphin* extended these services from Prescott and Ogdensburg to the head of the Long Sault Rapids. *United States*, Captain Van Cleve, had a fine reputation. So pleased was the Honorable Alexander Stow with the courtesies extended him on a complimentary trip to Ogdensburg and return, that he dedicated the following poem to the Captain, in a Rochester paper:[63]

> How gaily over the dashing wave
> Comes thy proud steamer now
> While Genesee's glad waters lave
> Thy ever welcome prow.
> Thy ever gallant prow, Van Cleve,
> Oh, who shall say her nay,
> While we her lasting welcome give
> To our Rock Channel Bay.
>
> Ontario's bosom floateth not
> A nobler bark than thine
> To mortal man an envied lot
> Thy dinners and thy wine.
> Thy dinners and thy wine, Van Cleve,
> A heart to cheer inclined
> With sixteen knots an hour
> To leave the lumbering land behind.

[61] *Chicago American*, 25 June 1836.
[62] *History of the Great Lakes, Illustrated*, I, 303.
[63] Van Cleve, op. cit., p. 90.

Away, away, no favors won
From canvas or from breeze
Thy palace vessel glideth on
Far o'er the western seas.
Far o'er the western seas, Van Cleve
Oh, were the choice but mine
I'd leave the land to sink and heave
In that brave boat of thine.

Long may she o'er the billows ride
Ontario's dashing queen
From loud Niagara's thundering tide
To the Thousand Islands green
The Thousand Islands green, Van Cleve,
Long may ye live and laugh
To count as ye their mazes weave
Ten dollars and a half.

The economic recession of 1835 had had its effect on shipbuilding. While ten new steamers went into service, six on Lake Erie, one on Lake Huron, and three on Lake Ontario, six of them were very small. *De Witt Clinton*, 493 tons, built at Huron for the upper lakes trade was the largest. She rendered good service on the Chicago route for a number of years. *Don Quixote*, 80 tons, built at Toledo, was unfortunate. She was wrecked in a gale on Lake Huron shortly after going into service. *Post Boy* was also quite small, but notable in that she carried the first full vessel load of wheat, 1,500 bushels, down the lake from Michigan City, a matter of much local importance. Michigan City was a rival of Chicago and confidently expected to become the metropolis of the West. At Detroit, steam ferry service was improved by the replacement of the ferry *Argo* by *United*, of 71 tons. She ran until 1853, when she was enlarged and made into a wood barge, which was sunk in a collision near the St. Clair Flats in 1879.[64] There is little that is worthy of comment on the other new boats on Lake Erie this season.

Of the three new boats on Lake Ontario, *Oneida*, 227 tons, American, was the largest. She was built at Oswego for Henry Fitzhugh of that place, and E. B. Allen and G. N. Seymour of Ogdensburg. Her first master was A. Smith, also an owner. She was 132 feet long, 19 feet wide, and had a depth of hold of 9 feet. She had two low pressure engines. She ran between Lewiston and Ogdensburg.[65] *Telegraph*, 196 tons, also American, built near Dexter in Jefferson county, New York, came out in the fall of

[64] Bancroft, op. cit., p. 355. *History of the Great Lakes, Illustrated*, I, 421, 443.
[65] Van Cleve, op. cit., p. 93. Morrison, op. cit., p. 382.

the year. She was owned by parties in Utica, Watertown and Sacketts Harbor. Captain Sprague was her first commander. She was 131 feet long, 18.75 feet wide, and 9 feet deep in the hold. She ran for a time between Lewiston and Hamilton under Captain John Mason.[66] *Bytown*, 150 tons, Canadian, was built for service on the Rideau Canal, and was launched at Kingston early in May. She was owned by the Ottawa and Rideau Canal Forewarding Company which also operated *Cataraqui*. These two boats were side-wheelers, with the wheels mounted in recesses in the hull to secure the largest capacity afforded by the locks. They ran from Kingston to the Ottawa River via the canal connecting there with *Ottawa* and *Shannon* running to Montreal.[67] Steamboat service between Montreal and Chicago was now a reality and with some degree of reliability, though with transhipments at Kingston and the Welland Canal.

Other steamboats built this year and not mentioned heretofore were the:

| | | | |
|---|---|---|---|
| *Cincinnati,* | 116 tons, | American, | built at Sundusky |
| *St. Clair,* | 250 tons, | American, | built at Sundusky |
| *Barcelona,* | 102 tons, | Canadian, | built at Dunnville |
| *Penetanguishene,* | — | Canadian, | —— |

The most serious loss of the year was that of *Delaware*, which ran into a severe storm on the evening of 19 June while crossing Lake Michigan to Chicago shortly after leaving St. Joseph, and sprang a leak. She was driven ashore near the Little Calumet and became a total loss. Her master and owner was Captain George J. King, who had purchased her a short time before. The passengers and crew were all saved. It was the unanimous opinion of the former that no blame whatever could be attached to him for the unfortunate loss of his vessel. They further expressed their hearty thanks to him for his attention to them while on board, and stated in the strongest manner their entire satisfaction with the coolness and decision which he exerted so successfully to save their lives.[68]

Other steamboat accidents this year were those which happened to *United States*, which ran ashore near Erie in May; *William Penn*, which also went ashore to the east of that port; *Sheldon Thompson* which collided with *Monroe* in August, in which the former was severely damaged; *Daniel Webster*, disabled on Lake Erie in September and towed in to Cleveland for repairs; *Commodore Perry*, damaged in a collision with *Uncle Sam*, and *General Porter*, which ran on a rock at Dunkirk, and was sunk.

[66] Van Cleve, op. cit., p. 104. Morrison, op. cit., p. 382.
[67] Robertson, op. cit., p. 861.
[68] *Chicago Democrat*, 22, 29 June 1836.

This year the steamboat association was dissolved, most likely because it was unable to control effectively the large amount of traffic involved. The land boom continued well on into 1837 but in November three large banks in England failed and large amounts of investments in America in lands and other ventures were thrown on market for what they would bring and with disastrous consequences to the boom. Early in May 1837 it crashed and precipitated a panic which lasted throughout the year. Prices fell all along the line and money, recently so plentiful, became scarce beyond all understanding. Banks and businesses failed all over the country and factories closed. Hundreds of thousands of people were thrown out of work. Along the lakes local interests went bankrupt, vessels, steam and sail, lay idle at their docks and work was stopped on numerous small boats. The times became hard without precedent. But immigration to the West continued at a high rate and many of the steamboats, especially those on Lake Erie were busy well up into the fall.

Anticipating a large increase in business, the steamboat owners ordered twenty-four new steamboats, nineteen for service on Lake Erie and the upper lakes, and five on Lake Ontario. Fourteen of the former were of 390 tons and more up to 755 tons. The other five were of 100 tons and less down to 33 tons. The first new boat to get into service was *James Madison*, 700 tons, launched at Huron the preceding December. She was built for Colonel Reed of Erie, by Captain Richards, expressly for the Buffalo-Chicago trade and was 181 feet long on deck, 30 feet wide in the hull and had a depth of hold of 12.5 feet. She was the largest boat built on Lake Erie to date and was fitted out in a style surpassed by no other boat. She had large cabins with thirty-six two-berth staterooms, and spacious accommodations.[69] The entire cost was $75,000. Her schedule called for a departure every sixteen days in the first part of the season and every nineteen in the closing months.

She left Buffalo on 17 May, on her first trip to Chicago, reached Milwaukee on the twenty-sixth with one thousand passengers and four thousand barrels of freight, and somewhat over her scheduled time. Captain R. C. Bristol was her master. Kinzie, Hunter & Co., were the Chicago agents. Taking on passengers and freight, she left for the East, stopping at Michigan City and the Grand River on the east shore. She is said to have taken in $30,000 on this trip.[70]

The first boat launched on Lake Erie this year was the *New England*, 405 tons, built at the yard of Banta and Bidwell at Black Rock, for Nor-

[69] *Chicago American*, 31 December 1836, 3 June 1837.

[70] *Chicago American*, 8 June 1837, *History of the Great Lakes, Illustrated*, pp. 292, 344.

ton, Carlisle and Company of Buffalo, and Gillespie, Norton and Company of Cleveland. She was launched in February, in fine style into an opening cut in the ice. Fear was expressed for several of the spectators who had put themselves on the ice near by. It broke to a considerable extent when the hull hit the water, but nothing serious resulted. Her length on keel was 150 feet, breadth 26 feet and depth of hold 11 feet. She had a low pressure engine taken from *Henry Clay*. The boilers were new and were built by John Newman, of Buffalo. Jacob Banta superintended the construction. She was ready on the opening of navigation to carry freight and passengers through the lakes to Chicago.[71]

Other important launchings during the season were those of *Cleveland*, 600 tons, at Huron in June; *Buffalo*, 670 tons, and *Manhattan*, both at Buffalo in August; *Illinois*, 755 tons, at Detroit in September; *Erie*, 497 tons, at Erie in October and *Wisconsin*, 700 tons, at Conneaut. It is not likely that any but the first three were completed in time to make other than a trial trip before the season closed. One of the smallest of the new boats was the steam scow, *Badger*, 60 tons, the first steamboat to be built at Milwaukee. It was used to lighter freight and passengers between vessels and the shore, there being no harbor there. It was lost there during the season.

The five new boats on Lake Ontario were all Canadian. The largest was *Sir Robert Peel*, 350 tons, 161 feet long and 30 feet wide, built at Brockville at a cost of $44,000. She arrived at Cobourg on her first trip up the lake on Friday 28 July. The *Cobourg Star* described her as:

> altogether of novel construction, being built for speed, of remarkable length and narrow in the beam so as to draw little water,—only four feet as she lay at the wharf —and presents the least possible resistance in her passage through it.

She was tastefully fitted up for the accommodation of passengers. Favorable report was made of her sea-going qualities. She was represented as being wholly free from the disagreeable jar of the engine common to other boats, and it was anticipated that she would prove a great deal faster.[72]

The other Canadian steamers were *Experiment*, *Burlington* and *Boynton*. The last named was quite small.

*Experiment*, 150 tons, was built by Gilkison at Niagara for Mr. James Lockhart. She was 98 feet long and 14 feet wide, and could make ten miles per hour. She made her first trip to Toronto on 4 July, with Captain

[71] *Chicago American*, 18 March 1837.
[72] Robertson, op. cit., p. 865.

Dick, who commanded her for the remainder of the season, as master.[73] *Burlington*, also 150 tons, was built at Oakville at a cost of $16,000 and was launched on 10 July with engine in place. Her trial trip was made a few days later under Captain John Gordon. She ran daily from Dundas to Hamilton and Toronto.[74]

Other steamers completed this season, not mentioned heretofore were the:

| | | | |
|---|---|---|---|
| *Constitution,* | 440 tons, | American, | built at Erie |
| *Bunker Hill,* | 457 tons, | American, | built at Black River, Ohio |
| *General Wayne,* | 390 tons, | American, | built at Perrysburg |
| *Milwaukee,* | 400 tons, | American, | built at Grand Island |
| *Rochester,* | 472 tons, | American, | built at Fairport |
| *Constellation,* | 483 tons, | American, | built at Charleston |
| *Star,* | 128 tons, | American, | built at Belvedere |
| *Macomb,* | 100 tons, | American, | built at Mt. Clemens |
| *Commerce,* | 80 tons, | American, | built at Sandusky |
| *Governor Mason,* | 33 tons, | American, | built at Grand Rapids |

Losses other than those already referred to this year were those of the old *Canada*, *By Town* and *Boynton*, all on Lake Ontario. *Canada* went ashore near Oswego and was broken up. Captain Nat Johnson was in command. [75] *By Town* was totally wrecked at Kingston, in a severe storm at the end of October.[76] *Boynton* also came to grief by being wrecked at the same place.

Accidents of the year were: *New England*, damaged by running into the pier at Buffalo in May; *Niagara* and *Pennsylvania* in collision near Huron in May; *New York* and *New England* in collision near Dunkirk in July. *Commodore Barrie* narrowly escaped being wrecked in a severe storm in which she lost one of her paddle-wheels, while *Cobourg* ran on a sand bar at Ferris' Point, eight miles from Kingston. The season closed quietly enough but not without signs of coming trouble in the Canadas. The year ended with the shores of Lakes Ontario and Erie blazing with excitement occasioned by the burning of *Caroline* by a party of Canadian militiamen.

[73] Ibid, p 867.
[74] Ibid., p. 867.
[75] Van Cleve, op. cit., p. 53.
[76] Robertson, op. cit., p. 867.

# Notes

## The 'Lady of the Lake' in Dismal Swamp

Since the publication of an article on the history of the Dismal Swamp Canal,[1] information has come to light on an interesting early steamboat expressly built for navigating this artificial waterway linking Chesapeake Bay with Albemarle Sound. Plate 16 accompanying this article reproduced the lithograph, 'Lake Drummond Hotel . . . and Part of the Dismal Swamp Canal . . . ,' published by C. Hall at Norfolk in 1831 after the sketch by Thomas Williamsen. Shown in this illustration was the stern view of a peculiar twin-stacked steamboat, which I had been unable to identify. This little craft was speeding along the canal with considerable wash coming from under the stern. The fact that no side-paddles appeared suggested that, either (1) the artist forgot to draw them (the well-known Hill-Bennett print of New York Harbor of 1837 has a side-wheeler steaming along without a smokestack); (2) the vessel was screw propelled; or (3) that her engine turned some form of center or recessed stern paddle-wheel. The first suggestion was discarded on the basis of the meticulous care with which other details of the composition were executed. The second supposition seemed highly improbable, for a screw steamer showing in a print dated 1831 would have established a record unlikely to have been overlooked for more than a century.

A clue, and with it positive identification, was discovered in a three-line note in *Niles' Weekly Register*[2] which stated that the 60-ton recessed stern-wheel steamboat *Lady of the Lake* was being prepared at Norfolk for navigation in the Dismal Swamp Canal.

Particulars obtained from her enrollment papers in the National Archives through the kindness of Mr. John E. Nolen, supply the information that the *Lady of the Lake* was built by master shipwright John Murray at Portsmouth, Virginia, in 1830 and measured 63 feet long, 16 feet 6 inches broad, and 6 feet 3 inches deep; tonnage 60 40/95. Unfortunately nothing is said about her machinery, but the papers state she had 'one deck, no mast, square tuck and a square stern.' Her first enrollment, issued at Norfolk on 22 July 1830, gives Guy C. Wheeler of Portsmouth, together with John B. Roy, John D. Townes and James Gordon of the Borough of Norfolk, as owners, Wheeler serving as master.

By a subsequent enrollment issued on 18 February 1832, we learn that the Virginia and North Carolina Transportation Company acquired the boat and Henry F. Harding was named master. Other captains who conned the *Lady of the Lake* through the canal were George H. Gardner, George Moore, and John Phillips. Apparently the little steamer was not too successful for on 3 December 1833 she surrendered her enrollment papers and was changed to a schooner.

Her name was obviously by courtesy of Sir Walter Scott, but was singularly appropriate to the Dismal Swamp due to Sir Thomas Moore's gloomy ballad of the wraith-like lady who paddled her white canoe on Lake Drummond.

ALEXANDER CROSBY BROWN.

[1] 'The Dismal Swamp Canal' The American Neptune, V (1945), 203-222, 297-310; VI (1946), 51-70. Also reprinted by the writer in booklet form, three parts together (Ann Arbor, 1946).

[2] 15 May 1830, p. 218.

# Documents

## Boston Navy Yard 1840

Among the manuscripts of naval interest in the War Records Office of the National Archives are two elephant folio volumes that are virtually unique. They comprise 'Plans of Buildings and Machinery Erected in the Navy Yard, Boston from 1830 to 1840; by Alexr. Parris, Bureau of Yards and Docks, Navy Department, Washington, D. C.'

The first of the two volumes contains 36 plans in 48 pages 29¼ x 25¼ inches in size; the second contains 36 plans in 48 pages of which 5 are 50¼ x 25 inches and the balance are 37¼ x 25 inches in size. A large plan of the Navy Yard at Charlestown, Massachusetts (i.e. Boston) locates the several structures. The plan is reproduced herewith (Plate 7) but unfortunately at so great a reduction that particular buildings are difficult to identify. Much of the interest of the volumes is centered in the exquisitely detailed assembly and parts drawings of the equipment for the manufacture of cordage, tarring, timber sawing and the like. Even detailed plans of the 30 and 15 hp. steam engines and their boilers that were used to power the ropery are included. A drawing of the elevation of a sawmill has been selected for reproduction. (Plate 8) The original, in two large sheets, is scaled at 2 inches equals one foot. Many of the plans are real works of art, beautifully shaded and frequently finished as wash drawings.

Both volumes have been microcopied experimentally on 35 mm. microfilm and are being considered for inclusion in the File Microcopy Program of the National Archives. By reason of the large size of the originals, it has been necessary to segment some of the plans, that is, to copy a single page in two or more exposures. A positive print from the master negative may be secured at a moderate price, or photostats may be procured. Inquiries should be addressed to Dr. Philip M. Hamer, National Archives, Washington, D. C.

A manuscript description of the buildings and the processes of manufacture of cordage appears as a preface to one of the volumes. As it contains so much material of general interest, it has been transcribed as follows:

PLANS
of
BUILDINGS AND MACHINERY
ERECTED IN THE
NAVY YARD, BOSTON.
from
1830 to 1840
by
Alexr Parris
Bureau of Yards and Docks,
Navy Department
Washington, D. C.

*DESCRIPTION*

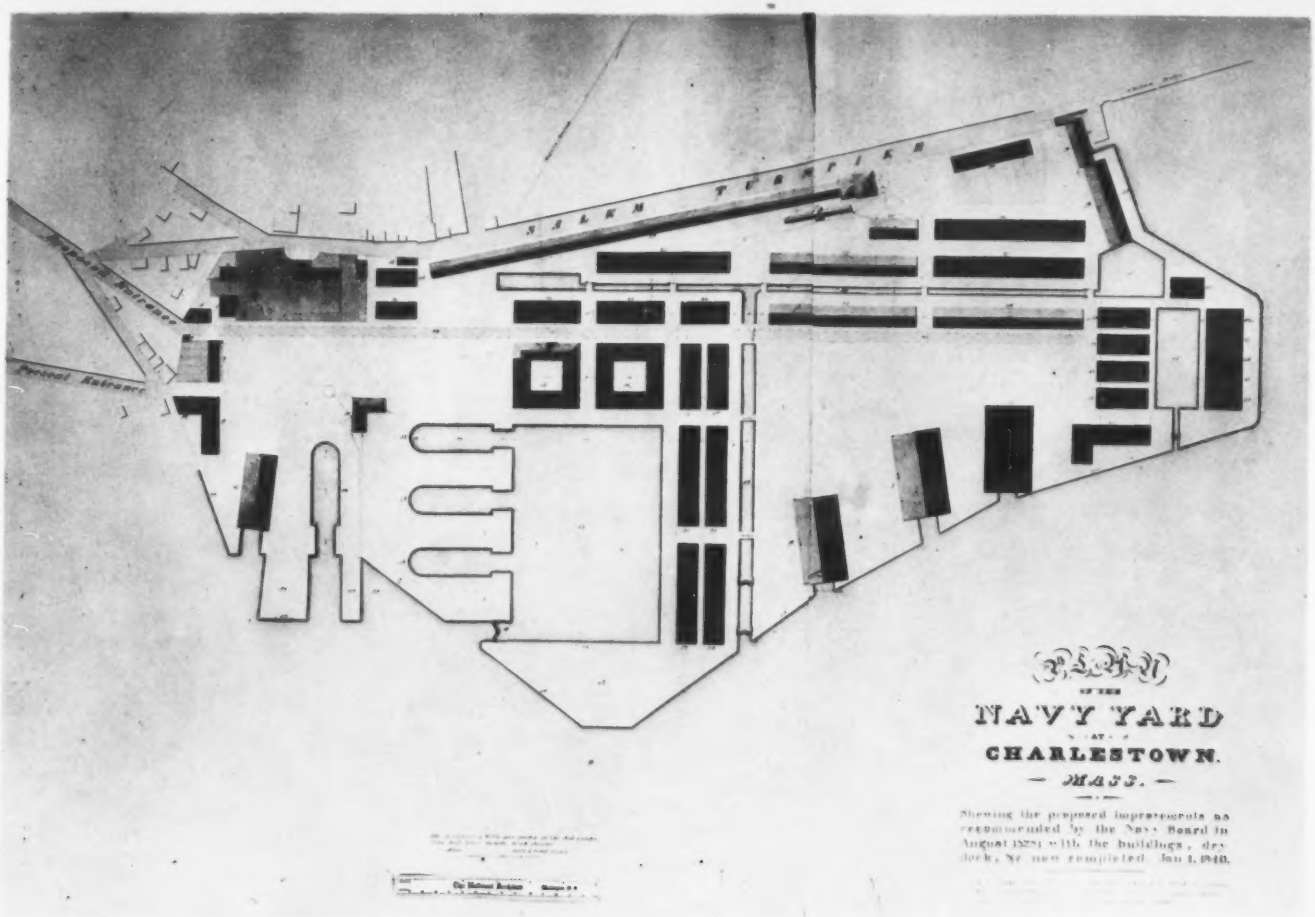
Of the Buildings, Machinery, etc. composing the Ropery, Erected in the Navy Yard Charlestown, Mass. between the Years 1834 and 1838.

By reference to the plan of the Navy Yard annexed to this book of drawings, the location of this Ropery will be perceived stretching along next the Salem turnpike consisting of a Head House 70 by 60 feet three stories high with a basement, a Laying-up Ground 1300 feet by 45 feet 200 of which is two stories. In the basement story of the head house are placed two Steam Engines one of 30 and one of 15 horse power, so arranged as to work together by couplings when required for laying-up heavy cables, etc. upon the shafts of these Engines are the main drums, from which the belts for carrying the Machinery for Spinning, Laying-up, Tarring, etc. The machinery for tarring is put in motion by a belt passing through an arch under the passage between the spinning and Laying-up room.s. The tarring house is 200 feet by 19 with projections at the centre to give room for the stairs to the second story. A short distance North Easterly from the head house is the Hemp Store House 140 by 60 feet and 32 feet high divided into two high stories and will contain 1200 tons of hemp. A cellar under the whole also the tarring house is used for storing Tar Cordage, etc. The walls of said buildings are built in the most substan-

tial manner faced with rough granite and are two feet thick, backed up with brick one fifth part of the granite ashler goes quite through and makes the whole thickness of the wall. All the doors and window shutters are wholly of wrought iron, the roofs of all the said buildings are covered with the best welsh slates. Over the boiler and engine rooms is a brick arched ceiling supported by cast iron beams. The preparing and spinning rooms have cast iron pipes 7 inches in diameter which are placed quite round the rooms, through which the steam passes in its exit from the engines, and heats the rooms sufficiently for the comfort of the workmen and the working of the machinery.

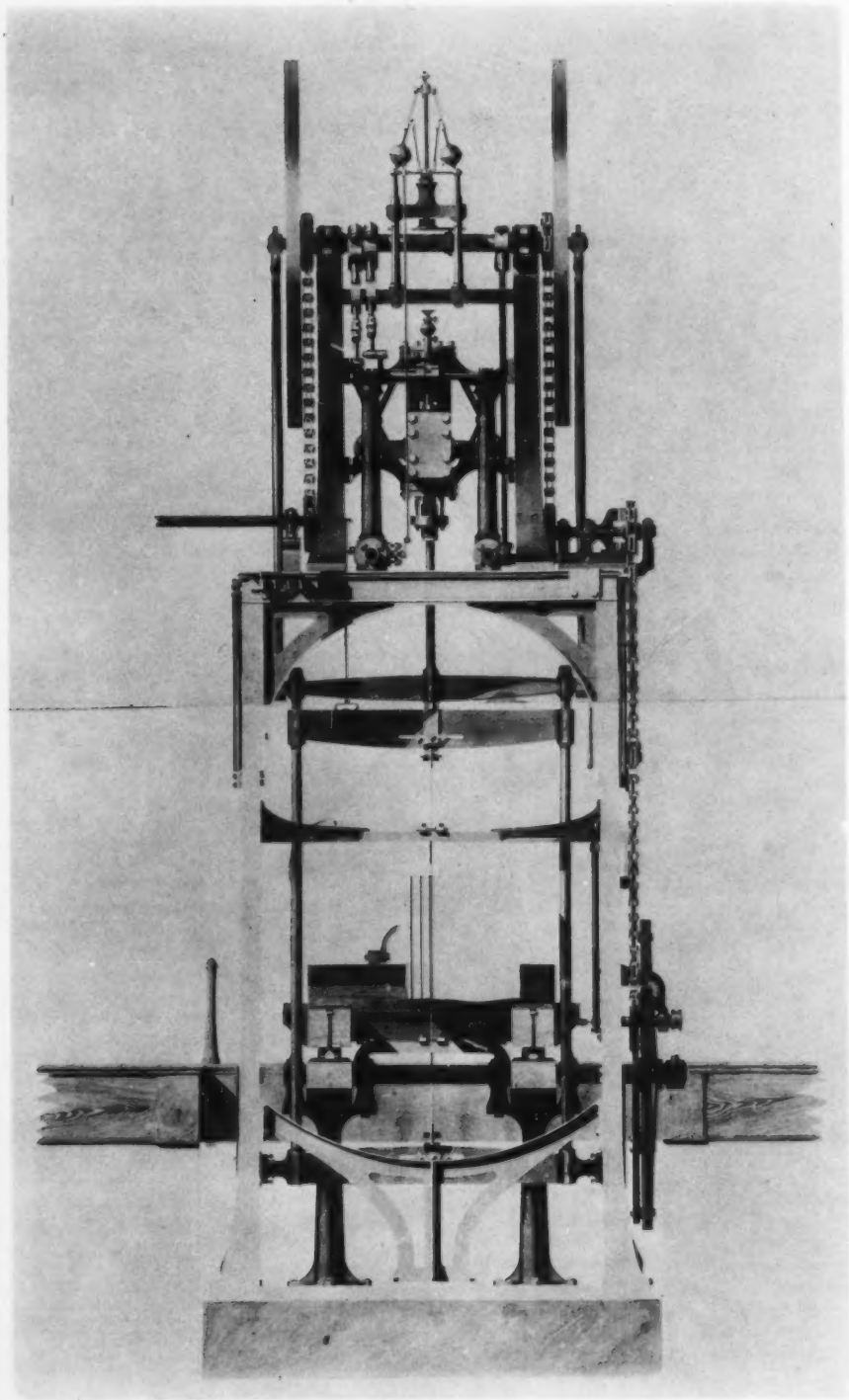
### *THE PROCESS OF MANUFACTURE*

The Manufacture of Cordage consists essentially of three processes namely, spinning, tarring, and laying or forcing the ropes. All these processes are performed in this Ropery by machinery driven by steam power. The spinning room is situated near the head of the walls, in the second story, it is 200 feet long and 41 feet wide, containing nine preparing machines and eighty spinning machines. The order of the operations for producing the yarns is as follows. The hemp, being previously hackled to the proper degree, if fine yarns are to be spun; is separated into small portions of about half a pound each and laid upon a board behind the machine called the Circular Hackling Machine seen in drawing No. 32 by this machine the fibres are drawn between the teeth of the large cylinder and round upon its circumference until it is wound to a thickness nearly equal to the length of the teeth. The attendant then stops the machine, and breaking the ring or covering of hemp at the point where an open space is seen in the rows of teeth he strips it from the cylinder in a large roller lap. each lap formed in this way contains about six pounds of hemp the fibres nearly parralel with each other, light and free from snarls, while the ends of the fibres are distributed over every part of the lap so that they can be drawn separately from the same. The next operation is performed by the belted roving machine or drawing frame seen in drawing No. 33 this machine being put in motion, the end of a lap from the Circular hackle, is passed into its points or grill pins and by them moved forward untill it meets the drawing belts. by which it is seized and drawn out to many times its original length. The laps being supplied to the machine without interruption. a continuous roving is formed by the drawing belts and deposited into a large can. To obtain rovings of an even and uniform quality it is found useful to perform this operation twice, a number of the rovings therefore as first formed are passed together through a second machine formed precisely like the first, except that it is of smaller size. The rovings delivered by this machine are taken in cans to the spinning machines. One of which is seen in drawings No. 20 to 23. Here at each machine a roving is passed through a series of points or grill pins arranged upon a belt as in the roving machines but the drawing out like roving to the fineness required for the yarn is performed by rollers, from which it is immediately twisted and wound upon a bobbin as will be understood by an inspection of the drawings. One of the peculiarities of this machine is its self regulating apparatus by the operation of which whenever the yarn is of a size larger than that required, the supply of roving is interrupted untill the yarn is reduced to the required size. Again if the yarn be given off by the rollers of a size less than that required the same apparatus hastenes the advance of the roving untill the yarn attains its proper diameter. To keep the whole of this preparing and spinning Machinery in operation requires the attendance of sixteen men only, who produce (4000) pounds of yarn of ordinary fineness per day. the cost of this manufacture including steam power, repairs, and every expense has been shown by careful examination, made by order of the Board of Navy Commissioners, to be about onehalf of that required to spin in the ordinary way by hand; and the whole amount annually saved to the government by the operation of the machinery, is shown in the same examination to be about $13,000. But a still more important result is obtained from the machinery in the quality of the cordage produced; which has been established by full experiment made in the ropery to be from 10 to 18 per cent stronger than cordage made from hemp of the same quality spun by hand; and what may seem incredible, more than 50 per cent stronger than the common hand spun cordage used upon merchant ships. The Second Operation namely the tarring the yarns is performed in a building by the side of the rope walk 196 by 15 feet inside dimensions. The drawings Nos. 16, 17, 18, 34 show the tarring machinery which may be considered as but one machine it will be seen that the bobbins filled with yarn as taken from the spinning machines are placed upon a frame to the number of 160 the yarn is then drawn from them and passed a vat 40 feet long, filled with tar, which is kept at the proper temperature, and state of preparation by steam pipes passing through it, during the passage of the yarn through the tar it is partially untwisted by the operation of a peculiar apparatus, in order that the tar may penetrate to the centre of the yarns. At the end of the tar vat, the yarns pass through the nipper where the suparabundant tar is squeezed out. From this it passes over rollers through the length of the building during which it is coated and it is then returned and wound upon large bobbins of which there are 80 constantly in motion two yarns being wound upon each bobbin; they are afterwards separated, in the upper room of the building by a machine, acting with great rapidity and each yarn is wound singly upon its bobbin as required for the laying up machinery.




Plan of the Navy Yard at Charlestown, Massachusetts, 1840

*Reproduced from* Plans of Buildings and Machinery Erected in the Navy Yard, Boston, from 1830 to 1840, by Alexander Parris, *in the War Records Office, The National Archives, Washington, D. C.*



Elevation of Saw Mill

*Reproduced from* Plans of Buildings and Machinery Erected in the Navy Yard, Boston, from 1830 to 1840, by Alexander Parris, *in the War Records Office, The National Archives, Washington, D. C.*

The whole of this machinery for tarring requires the attendance of 3 men and is capable of tarring three tons of yarn per day, with a degree of certainty and perfection wholly unatainable by the old methods of operating. The whole of the Machinery for preparing the hemp spinning and tarring as here represented and described was invented by Mr. Daniel Treadwell of Boston, between the Years 1828 and 1834. The first manufactury on this plan was constructed by him on the Mill dam near Boston, where the cordage for the Navy was for several years manufactured. The Machinery at the Navy Yard was constructed and put up by Mr. Treadwell under contract with the Navy Board in the years 1837 and 1838.

The laying-up or forming the yarns thus spun and tarred into ropes may be divided into two operations, the first forming the strands, the second laying them into ropes.

First, from three to five hundred bobbins containing a single yarn each are placed into a frame shown in Drawing No. 36 in such a manner that every bobbin can revolve freely upon its centre the number of yarns required for a strand are then drawn forward to the register plate and passed through the concentric circles of holes which guides every yarn to its proper place as it enters and is drawn through the Tube—which is placed in front of the plate—a number of these tubes are placed in an iron box which is kept hot by steam when the yarns are being drawn through the yarns are then hooked upon the hooks or spindles of the strand forming machine shown in Drawing Nos. 25, 26 upon one side of this machine is an expanding drum round which one or more turns of the endlass band is passed to give motion to the machinery in the centre of the Machine is another expanding drum called the ground rope drum round this one or more turns of the ground rope is passed, by this the machine is moved progressively backwards, the wheels of the machine are flanched and run upon iron rails laid the whole length of the walk when the endlass band is set in motion, the machine travels backwards at a rate which is in proportion to the twist required for the strand, drawing the yarn through the tubes twisting and forming them into a solid even and uniform strand. The next operation is laying the strands into ropes this is performed upon the machines called equallizing machines. The one at the head of the rope walk is stationary and is used for the foreturn or twisting the strands. the other travels upon the iron rails, and gives the after turn or twist in the rope. After the strands have received a sufficient quantity of twist they are all placed upon one hook or spindle of this machine. the laying up top is placed between them, and the machines being set in motion and as the top moved for-ward the rope is laid; in the after part or under this machine is fixed a drag loaded with a weight sufficient to keep the rope at a proper tension, thus closing the process of laying.

Near the centre of the walk is a small railroad, upon which the small machines shown in Drawing No. for making railing and all small siezing stuff is made.

*Contributed by Vernon D. Tate.*

## President Wilson's Departure for the Peace Conference

In their issues of 5 December 1918 at least two New York newspapers, the *Times* and the *Herald*, gave their readers full accounts of President Wilson's departure for Europe the day before. It was a colorful event that called for colorful description which the journalists amply supplied. The account in the *Herald* ran in part: 'Amid the deep roar of thousands of ship and factory whistles, the booming of the Presidential salute and the dipping of colors by shipping throughout the harbor the big transport *George Washington*, bearing President Wilson and his diplomatic retinue to the world peace conference, left its pier at Hoboken yesterday morning at twenty minutes past ten o'clock. As the big craft swung back into the Hudson and turned her bow seaward, four war ships ranged down the river beside her, six destroyers formed a preliminary rear guard and two army biplanes swooped across the end of Manhattan and circled above the transport's course.' Wilson himself, master of words that he was, could hardly have done better.

In sharp contrast stands the account of 4 December 1918 given in the deck log of the U.S.S. *George Washington*, now in the National Archives. It is terse, almost poignant in its brevity. The extraordinary occasion does not elicit any departure from the customary Navy logbook style. As soon as the ship leaves the dock four enlisted men, who failed to return from shore leave in time to go to Europe with their Commander-in-Chief, are declared deserters. Later on it is recorded that during the watch the ship received from Henry Kelly & Sons 50 bunches of asparagus and 75 pounds of green peppers.

The passenger list, severe in its alphabetical democracy, is more complete than that in the *Times*. The latter lists 103 persons, the log lists 113. In the log, however, the Secretary of State, the French Ambassador, the Italian Ambassador, and the American Ambassador to England appear twice, first with their wives and, secondly, under 'T' after 'The' President. Mrs. Wilson, separated from her husband, misses the end of the list by only one name. Among the other passengers are noticed the names of several prominent professors of history, including Haskins, Fling, and Westermann; these 'specialists' had been members of 'The Inquiry' in New York. And in her proper place high in the list appears Susie Booth, Mrs. Wilson's maid, who is not mentioned in the *Times*.

Deck Log of U.S.S. *George Washington*
December 4, 1918.

6:45 A.M. to meridian.

At 7:10 Admiral Gleaves and staff came aboard. Rendered full honors.

At 8:00 Ship's draft Forward 34′ 0″—Aft 34′ 5½″.

At 8:05 President Wilson and Peace Commissioners accompanied by many distinguished guests, relations and government officials came aboard. Rendered full honors.

At 8:07 the French Ambassador and the Italian Ambassador came aboard. Rendered full honors.

At 8:09 Secretary of War came aboard. Rendered full honors.

At 8:10 Secretary of State came aboard. Rendered full honors.

8:00 to 10:00 A.M. Employes of Peace Commission coming aboard for transportation to France. Many distinguished people came aboard to pay respect to President Wilson and members of party.

At 8:45 sounded retreat. At 8:50 tested out whistle, siren, steering engine and main engine telegraphs.

At 9:15 Pilot W. McLaughlin reported aboard.

At 10:00 sounded quarters for getting underway; all visitors left ship.

At 10:05 singled up lines and sent gangway ladders ashore.

At 10:15 cast off from dock and stood out assisted by four tugs—various speeds and courses—Commanding Officer conning assisted by Pilot. The following named men were this day declared deserte[r]s from the date set opposite their names:

[Name omitted by contributor] From 8:00 A.M. November 26, 1918.

[Name omitted by contributor] F-2c. From 8:00 A.M. November 27, 1918.

[Name omitted by contributor] F-1c. From 8:00 A.M. November 29, 1918.

[Name omitted by contributor] F-3c. From Midnight November 25, 1918.

Ship's draft ford. 34′ 07″—Aft 34′ 5½″.

At 10:21 fired a salute of twenty-one guns. Presidents flag at main.

The following officials and passengers are embarked for passage:

Alverson, L. T.
Clerk.

Auchincloss, Mrs. Gordon.

Ayres, L. P. Colonel U.S.A.
General Staff.

Bardazzer, Augus.
Personal attendant to the Italian Ambassador.

Beer, G. L.
Specialist.

Bender, Robert.
United Press.

Benham, Miss Edith.
Secretary to Mrs. Wilson.

Benson, Mrs. W. S.

Blank, W. J.
Ass't to Specialist.

Booth, Susie.
Maid to Mrs. Wilson.

Bowman, I.
Specialist.

Bretan, Dean.
Main [Maid] to Miss Cellere.

Brooks, Arthur.
Personal attendant to the President.

Bullitt, William C.
Attached to Commission.

Cam[p]bell, J. M. Major U.S.A.
General Staff.

The Italian Ambassador.
Cellere, Countess.
Cellere, Miss.
Cellere, Master.
Childs, T. M. Captain U.S.A.
Special Military Aide.
Churchill, Brig. General U.S.A.
General Staff.
Close, Gilbert F.
Confidential Clerk to the President.
Coney, H. C.
Clerk.
Creel, George.
Chairman of Committee on Public Information.
Crocker, Henry G.
Ass't to Technical Adviser.
The American Ambassador to England.
Davis, Mrs.
Day, C.
Specialist.
Dixon, R. B.
Ass't to Specialist.
Dresel, E. L.
Attached to Commission.
Farabee, Wm. C. Capt. U.S.A.
Ass't to Specialist.
Felio, L. F. 2nd Lt. U.S.A.
Fenstermacher, H. N.
Clerk.
Ferguson, Walter G.
Secret Service.
Finch, George A.
Ass't to Technical Adviser.
Fosdick, R. B.
Fitzgerald, John J.
Secret Service.
Fleming, Victor. 1st Lt. U.S.A.
Signal Corps.
Fling, F. M. Major U.S.A.
Special Military Aide.
Frary, D. P.
Ass't to Specialist.
Furlong, C. W. Major U.S.A.
Special Military Aide.
Goldstein, H.
Clerk.
Gray, L. H.
Ass't to Specialist.
Gregory, George D.
Confidential Clerk to Major Scott.
Grayson, Cary T. Rear Adm.
Naval Aide to the President.
Grew, Mrs. Joseph C.
Griffin, F. J. Major U.S.A.
Signal Corps.
Haskin[s], C. H.
Specialist.
Harris, George H.
Ass't Disbursing Officer of the Commission.
Harrison, Leland.
Ass't Secretary of the Commission.
Helms, Birch. Major U.S.A.
Special Military Aide.
Hershey, Prof. Amos S.
Ass't to Technical Adviser.
Hoover, Irving H.
Chief Usher.
Hornbeck, S. K. Capt. U.S.A.
Ass't to Specialist.
Huddle, J. K.
Confidential Clerk.
Higgins, Miss, R. W.
Special Stenographer (M.I.D.)
Jefferson, M.
Specialist.
Jordan, R. H. Colonel U.S.A.
General Staff.
The French Ambassador.
Jusserand, Madame.
Kerner, P. J. [R. J.]
Ass't to Specialist.
Knapp, H. S. Rear Admiral U.S.N.
Landvoight, Wm. A.
Secret Service.
The Secretary of State.
Lansing, Mrs. Robert.
Lobeck, A. K.
Ass't to Specialist.
Loup, Rosalie.
Maid to Countess Cellere.
Loup, August.
Personal attendant to Count Cellere.
Long, George E.
Ass't to Col. Jordan.
Lord, R. H.
Specialist.
Lunt, W. E.
Specialist.
Lybyer, H. A. [A. H.]
Ass't to Specialist.
Macatee, R. B.
Confidential Clerk.
Marston, Hunter S. Major, U.S.A.
AGD
McNeir, William.
Disbursing Officer of the Commission.
Mezes, S. E.
Director of Specialists.

Mezes, Mrs. S. E.
Miller, Mrs. David Hunter.
Moon, P. T.
Ass't to Specialist.
Mundy, L. E.
Clerk.
Murphy, Joseph E.
Secret Service.
Nevin, John J.
International News.
Patchin, Philip H.
Ass't Sec'y of the Commission.
Pratt, W. V. Captain, U.S.N.
Probert, L. C.
Associated Press.
Ronimus, L. W.
Clerk.
Scott, James B. Major U.S.A.
Technical Adviser.
Scott, Mrs. J. B.
Seymour, C.
Specialist.
Shotwell, J. T.
Specialist.
Skinner, S. Y.
Clerk.
Slosson, P. W.
Ass't to Specialist.
Slye, John Q.
Secret Service.
Smith, Sydney Y.
Attached to Commission.
Starling, Edmund W.
Secret Service.
Storck, J.
Ass't to Specialist.
Stratton, O. G.
Ass't to Specialist.
Stevens, G. F.
Personal Attendant to Mr. White.
Stubbs, J. B.
Ass't to Specialist.
Sullivan, John L.
Secret Service.
Sweet, R. C.
Confidential Sec'y to Sec'y of State.
Swem, Charles.
Private Stenographer to the President.
The President.
The Secretary of State.
The French Ambassador.
The Italian Ambassador.
The American Ambassador to England.
Voghazzo, Matilde.
Maid to Jordan Jusserand.
Welsh, C. B.
Confidential Clerk.
Westermann, W. L.
Specialist.
White, Henry.
Commissioner Plemipotentiary. [*sic*]
Wilson, Mrs.
Young, A. A.
Specialist.

At 10:28 off shore destroyer escort took position. At 10:30 standing down river —various speeds and courses. At 11:05 passed man-of-war anchorage off Thompkinsville, U.S.S. *New Orleans* and several patrol craft fired salutes of twenty-one guns. At 11:08 Trans-Atlantic destroyer escort took position. At 11:09 U.S.S. *Amphitrite* fired a salute of twenty-one guns. At 11:20 U.S.S. *Pennsylvania* fired a salute of twenty-one guns. At 11:25 U.S.S. *Pennsylvania* flying flag of Admiral Mayo took position as battleship escort. Stood out through Ambrose Channel in exact column U.S.S. *Pennsylvania* guide— with destroyer escort ahead and on each flank consisting of U.S.S. *Yarnell,* U.S.S. *Wick[e]s,* U.S.S. *Lea,* U.S.S. *Woolsey,* U.S.S. *Tarbell,* U.S.S. *Craven,* U.S.S. *Mahon* [*Mahan*], U.S.S. *Dorsey,* U.S.S. *Robinson,* and U.S.S. *Redford.* Received aboard during watch from Henry Kelly & Sons, 50 bunches of Asparagus and 75 lbs. Green peppers. Average steam pressure 207.5 Average revolutions 60.2.

(signed) J. H. PETERS
Lt. Comdr. J. H. Peters, U.S.N.R.F.

*Contributed by Carl L. Lokke.*

## A SCHEDULE OF MASTS OF 1703

THE accompanying document having come recently into my possession I thought it might be of interest to some of the readers of the NEPTUNE as it lists the number, diameter and length of masts and bowsprits and the number and length of yards for the Royal Navy at a comparatively early period. To determine its approximate date I looked up the men whose names appear on the document: Robert Eason as signer, R. Wi-

bird and Cha: Story as witnesses. I had heard of Richard Wibird of Portsmouth, New Hampshire, so I started with that name.

There were two Richard Wibirds,[1] father and son. The elder Richard came to Portsmouth before 1700 as a poulterer, or under-steward, on an English man-of-war, amassed a considerable fortune, built the first brick house in Portsmouth, and in 1727 paid the highest tax in town. At various times he was appointed by the Provincial Council to appraise vessels,[2] in 1716 was made a member of the Council, and in 1731 was appointed by his Excellency Governor Belcher as Collector of Customs[3] for York County. He died in 1732. In 1701 he married Mrs. Elizabeth Redford[4] by whom he had four or more children of whom the two best known were Richard, who married Elizabeth, daughter of the Hon. Jacob Wendell, and Elizabeth, who married Hunking Wentworth, son of Governor John and brother of Governor Benning Wentworth.

Richard, the son,[5] was born in 1702, was graduated at Harvard College in 1722; was a merchant, sheriff, member of the Provincial Council, representative of New Hampshire at the Albany Congress, Judge of the Court of Common Pleas, and a man of substance and influence. He died in 1765 without issue.

Nothing seems to be known of the early life of Charles Story[6] but probably he had practised law in England as he arrived in Portsmouth in the middle of January 1696 with a commission as Judge of the Admiralty for the Province which the Board accepted on 19 January 1696/7, when he was admitted as Secretary of the Province[7] and Clerk of the Council, which positions he held, with two brief intervals, until his death. He was dismissed as Secretary in February 1698 and re-appointed in July 1699; in 1704 he was replaced for one year when he went to England on a political mission. In 1699 he was made Register of Probate, in 1701 attorney at law in York County, and in 1712 Attorney General of the Province. He was married and resided in New Castle where he died in 1715 without issue.

The name of Eason is not a common one in New England. In 1638[8] 'It is ordered that the magistrates of Ipswich shall have power to discharge Mr. Eason and Mr. Geoffry from building at Winnacunnet [later Hampton], and if they will not take warning, to clear the place of them.' In 1650 a Thomas Eason[9] died in Newbury, and in 1675 there was an Easons' River[10] in Newbury near the Rowley line, near which in 1677 was 'easons siller,'[11] possibly the site of the house where Thomas had died. In 1690 a Peter Eason[12] was a ship carpenter on Great Island [New Castle].

The only mentions of Captain Robert Eason are in the year 1703. Under date of 14 October of that year the Rev. John Pike[13] states in his diary that 'Cap. Eason came in from England with first Mast ship.[14] Brought over John Usher Leutenant Govenor of New Hampshire,' who was returning from a visit to England.[15]

[1] C. K. Shipton, *Sibley's Harvard Graduates*, VII, 139.

[2] *New Hampshire Provincial Papers*, II, 502, 597.

[3] C. K. Shipton, *Sibley's Harvard Graduates*, VII, 139.

[4] John Wentworth, *The Wentworth Genealogy*, I, 292.

[5] C. K. Shipton, *Sibley's Harvard Graduates*, VII, 139.

[6] *New Hampshire Provincial Papers*, II, 670.

[7] Ibid., II, 206.

[8] Ibid., I, 148.

[9] *Vital Records of Newbury, Mass.*, II, 588.

[10] *Records and Files of the Quarterly Courts of Essex County, Mass.*, VI, 64, 66, 320.

[11] Ibid., VI, 321.

[12] *Genealogical Dictionary of Maine and New Hampshire*, I, 214.

[13] 'Journal of Rev. John Pike, 1678-1709,' *N. H. Gen. Record*, III, 100.

[14] Probably means the first mast ship for the year 1703.

[15] Jeremy Belknap, *History of New Hampshire*, Dover, 1831, I, 158.

The records of the Council and General Assembly of the Province presided over by the Honorable John Usher, Lieutenant Governor, relating to Captain Eason are as follows:

9 November. 'The petition[16] of Capt. Robert Eason was read at this Board, commander of the ship *Thennett*, built in the river of Piscataqua, setting forth the ship's being in the Queen's service, and have so been ever since she was built, in fetching masts, yards, Bowsprits, &c., out of this river for her Maj'ty's navy.

'Prays that he may therefore be considered in being abated towards paying the duty and imposition laid upon all vessels paying powder,[17] in specie going out of this River, &c.'

10 November. 'The petition[18] of Capt. Robert Eason was read at this Board, relating to his being abated in paying a quantity of powder for said Ship before she be cleared, &c. She being in her Majesty's service &c.

'Ordered, that Mr. Secretary Story write to his Excellency that this Board humbly offers, that as Captain Eason intends the latter end of this month to sail for England, that his Excellency would be pleased to order an Assembly to meet some convenient time before said Eason's departure, in order to lay before her Majesty the present state of the Province.'

7 December. 'The petition[19] of Capt. Robert Eason was read at this Board, relating to have some small abatement of paying powder duty, &c.'

9 December. 'Mr. Nath[l] Hill[20] brought up the petition of Capt. Robert Eason to this Board from the House of Representatives, with a vote that he pay two barrels of powder for this voyage.

'Consented to by the Council, and ordered that the Secretary make out an order to the Treasurer accordingly.'

From early times the English mast trade[21] centered at Portsmouth. The home country had no trees suitable for masts and the tall pines of Maine and New Hampshire were in demand as they had an advantage over the Baltic fir,[22] which must be pieced together to form 'made' masts.

After 1652[23] the Navy Board began to draw on this supply for one piece masts for the larger vessels and by 1670[24] Portsmouth was sending ten mast cargoes a year, two or three of which were for the Navy. This continued until the supply was cut off by the Revolution. The Charter of 1691[25] reserved for the Crown the great pines, except on private property settled at the time.

As one piece masts for ships of the line came only from sound trees of immense size, of which there was only about one in ten thousand,[26] the cost was high. Great masts frequently were worth £100[27] or more, for in addition to the scarcity of suitable trees there was the logging costs which were considerable as by 1700[28] it was necessary to go twenty miles into the woods for a good mast. Also, added factors in the cost was the necessity both of having protection[29] for the loggers from Indians and for the mast fleets from enemy privateers.

In the masts of the larger naval ves-

16 *New Hampshire Provincial Papers*, III, 261.

17 The 'powder duty' was a tax passed by the Council on 29 April 1701 on 'all vessels upwards of twelve tons not belonging to said Province, paying powder money for supply of his Majesty's fort at new castle.' The tax was one pound of powder or twelve pence per ton. *New Hampshire Provincial Papers*, III, 128.

18 *New Hampshire Provincial Papers*, II, 413.

19 Ibid., III, 262.

20 Ibid., III, 266.

21 Robert G. Albion, *Forests and Sea Power*, 235.

22 Ibid., 234.

23 Ibid., 29.

24 Ibid., 238.

25 Ibid., 255.

26 Ibid., 29.

27 Ibid., 236.

28 Ibid., 269.

29 Ibid., 237.

# A Schedule of Masts their Diamets:rs and Lengths &c: with Bowsprits & Yards.

| Masts | | | Bowsprits | | | Yards | |
|---|---|---|---|---|---|---|---|
| No: | Inches | Yards Long | No: | Inches | Yards Long | No: | Feet |
| 2 | 36 | 35 | 2 | 34 | 25. | 2 | 100 |
| 2 | 35 | 34 | 2 | 33 | 24 2/3 | 2 | 95 |
| 4 | 34 | 33 1/2 | 2 | 32 | 24 1/2 | 2 | 90 |
| 6 | 33 | 33 | 2 | 31 | 24 | | |
| 8 | 32 | 32 | 4 | 30 | 24 | | |
| 10 | 31 | 31 2/3 | | | | | |
| 8 | 30 | 31 2/3 | | | | | |
| 8 | 29 | 30 2/3 | | | | | |
| 5 | 28 | 29 2/3 | | | | | |
| 53 | | | | | | | |

4 Nettles

Wilbur

Wm: Moody

Robt: Eason

sels the proportion[30] of one inch diameter to a yard of length held pretty generally; bowsprits were thicker in proportion to length, and yards were more slender. The typical dimensions[31] for the mainmast of a Third-Rate of 74 guns would be 36″ diam. and 36 yards long; bowsprit, 34″ diam. and 22 yards long; while the yards ranged from 23″ to 14″ diam. and from 33 to 16 yards long. The unusual size of the American masts[32] necessitated specially constructed 'Mast ships,' ranging from 400 to 1000 tons. These ships had a capacity of from 40 to 100 of the large masts, besides many yards and spars, which were loaded through specially constructed ports in the stern.[33]

From the above facts it is evident that the document can not be earlier than 1696, when Story arrived at Portsmouth, or later than 1715, when he died; also, that it was signed by the elder Richard Wibird, as the younger Richard was only thirteen years old in 1715.

According to the petition of 9 November 1703, *Thennett* had been 'fetching masts' ever since she was built but we do not know whether or not Captain Eason commanded her on previous or subsequent voyages. The powder tax law was passed in April 1701 so that if he had commanded her on other voyages for the navy in the two preceeding or in succeeding years he might have applied for abatement. However, there is no record of any other such petition from him prior or subsequent to 1703, so we may assume that this was his only voyage as master of a mast ship for the Royal Navy. Therefore I judge that the manuscript is a declaration of the cargo of the Mast ship *Thennett*, made by Captain Robert Eason, master of the ship, and witnessed by Richard Wibird, Senior, a prominent merchant, and Charles Story, Secretary of the Provincial Council, for the purpose of assessing the powder tax on *Thennett's* cargo in the year 1703. Also, that *Thennett* was a ship of some 400 or more tons and that the masts, bowsprits and yards were suitable for navy vessels of the Third-Rate or smaller.

These masts and spars must have been most helpful at this particular time as England, having declared war[34] with France and Spain in May 1702, was hurriedly building up her fleet when she suddenly lost twelve vessels of the Royal Navy in the terrible storm[35] of November 1703.

[30] R. C. Anderson, *The Rigging of Ships in the Days of the Spritsail Topmast, 1600-1720*, 20. Robert G. Albion, *Forests and Sea Power*, 28.

[31] Robert G. Albion, *Forests and Sea Power*, 28.

[32] Ibid., 237.

[33] Ibid., 149.

[34] David Hume, *History of England* (New York), 1880, 550.

[35] Ibid., 552.

*Contributed by Lawrence Waters Jenkins*

# *Queries and Answers*

73. SCHOONER DOVREFJELD. Referring back to 'Six Masted Rigs' by John Lyman in THE AMERICAN NEPTUNE, IV, 325, I would like to add the following notes.

A wooden six masted schooner named *Dovrefjeld* appears in the 1918-1919 issue of Lloyd's Register with the data Official Number 110519, ex barge *Rhode Island*, ex steamer. Specifications – 1706 Net tons – 332.0 x 46.0 x 16.4, owned by Continental Trading Co., home port New York. This vessel had originally been the wooden paddle steamer *Rhode Island*, built in Noank, Connecticut in 1882. In the 1919 issue of List of Merchant Vessels of the United States, she is listed as having foundered 28 February 1919 32 miles East of Cape Hatteras, N. C., 13 in crew saved. It might be possible that this vessel was a schooner barge instead of a schoner but such vessels are so designated in the American Register.

Could any of your readers pass along any information concerning the *Dovrefjeld* and would photos of her be available?

ROBERT H. BURGESS

74. FRAMING. Could anyone clear up the following details for me:

a. When did cant frames begin to be used?

b. Was there any alternative method of framing ships in use prior to the nineteenth century to the system still in use today? Steele's framing plans of 1804 seem to show pairs of frames separated by half-frames and the same thing is hinted at in several contemporary constructional models, photographs of which I have seen.

c. How are the outside knuckle frames on a ship *circa* 1700 raised on the wing transom? Are they scarped on to the fashion pieces? If this is the case, how would the top-timbers be erected astern?

d. Were deck-bollards other than timber-heads in use before 1800?

e. Finally, were the decks of the quarter galleries, 1650-1750, horizontal, or did they follow the exterior sheer?

JOHN R. STEVENS

75. SHALLOPS AND PINNACES. I am looking for information on shapes of hull and sail plan or rig of the shallops and pinnaces mentioned in Governor Bradford's diary. These small craft are mentioned frequently by Bradford, and in all my reading of the writings of the Pilgrim colonists I can find no description of them. Can any reader suggest any seventeenth-century English print that might contain this information?

HARRY D. HAMILTON

76. GUN CARRIAGES. Can anyone tell me of any authoritative source from which I may be able to ascertain the rules for the proper proportions of the bolts, eyebolts, rings and ring-bolts (and other iron work) used in the construction of the wooden carriages for mounting the several sizes of muzzle-loading cannon commonly in use on the old sailing man-of-war?

It is obvious that a carriage for mounting a long 32-pounder would require heavier bolts and other fastenings than those needed in a 6-pounder's carriage. As the proper proportions of so many other items on the old time sailing craft had been the subject of careful observation and reduced to some sort of a system it seems fair to assume that the metal fastenings of the gun carriages had not escaped this same attention.

I have seen the statement made that the cheeks of gun carriages were as thick as the bore of the guns mounted thereon; that the axletrees were of the same thickness; that the diameter of the trucks were three times the bore of the piece. Was there any similar rule governing the iron work of the carriages?

HORATIO C. FLAGG

BRACE WINCHES. A sentence in Mr. Jerry MacMullen's interesting article on *Pamir*, THE AMERICAN NEPTUNE, VI (1946), 114, seems to call for comment. He says, concerning brace winches: 'they can swing the yards of any mast from port to starboard or vice versa with relative ease. Drums of the winches are conical, giving greater speed at one end of the pull, and greater power at the other.'

A minor point first: the brace winches control only the upper three yards on each mast. The other three are controlled by braces leading to the rail as normally. This is clear from Plate 15.

Mr. MacMullen seems to indicate that the reason for conical drums is to gain mechanical advantage or speed at particular parts of the pull. This is not the case: the reason for the conical drums of the Jarvis brace-winch is purely geometrical.

The fact is that when a yard is swung from the square position by hauling in the lee brace, the length of brace which goes out on the weather side is less than that which is taken in on the lee. In other words, the total length of braces, port and starboard, between yardarms and leading blocks, is a maximum when the yard is squared.

Thus a brace winch with parallel drums on one shaft would pay out too much to weather and the yard would be out of control owing to loose braces. The drums are therefore made conical, the brace ends being belayed to the narrow ends of the drums, the taper of which is adjusted to the distance between the masts and the length of the yard. It is a matter of simple calculation to show, for instance, that with a 40 foot yard and 40 feet between the masts, to swing the yard from square to 6 points from the beam, one must haul in 21.8 feet of lee brace, but if the yard is to be held steady, pay out only 14.3 feet of weather brace.

The fact that the mechanical advantage of the machine varies, becoming less as the brace is wound in, is quite incidental.

W. J. GRUBB